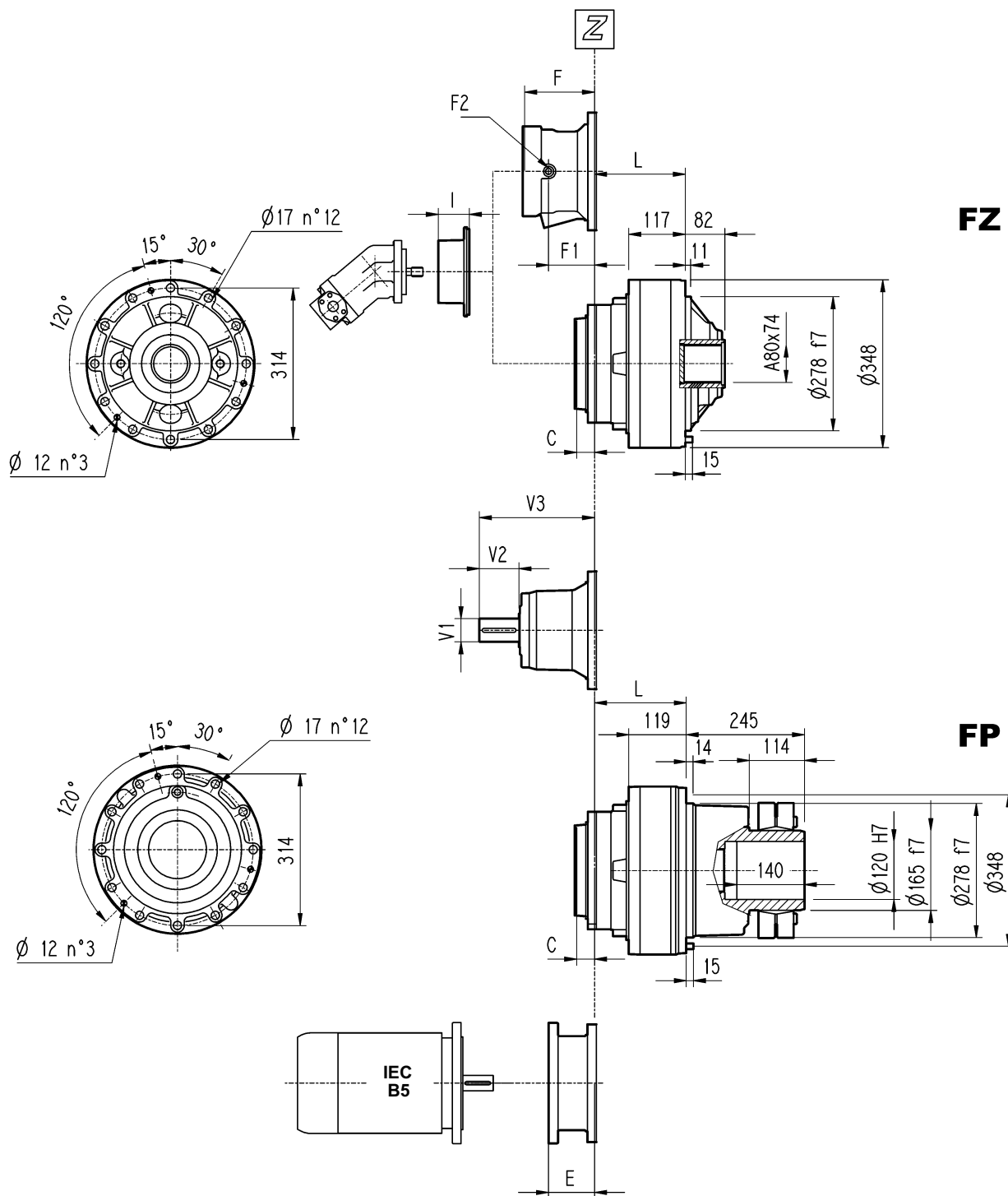


# 309L

**FZ**

**FP**

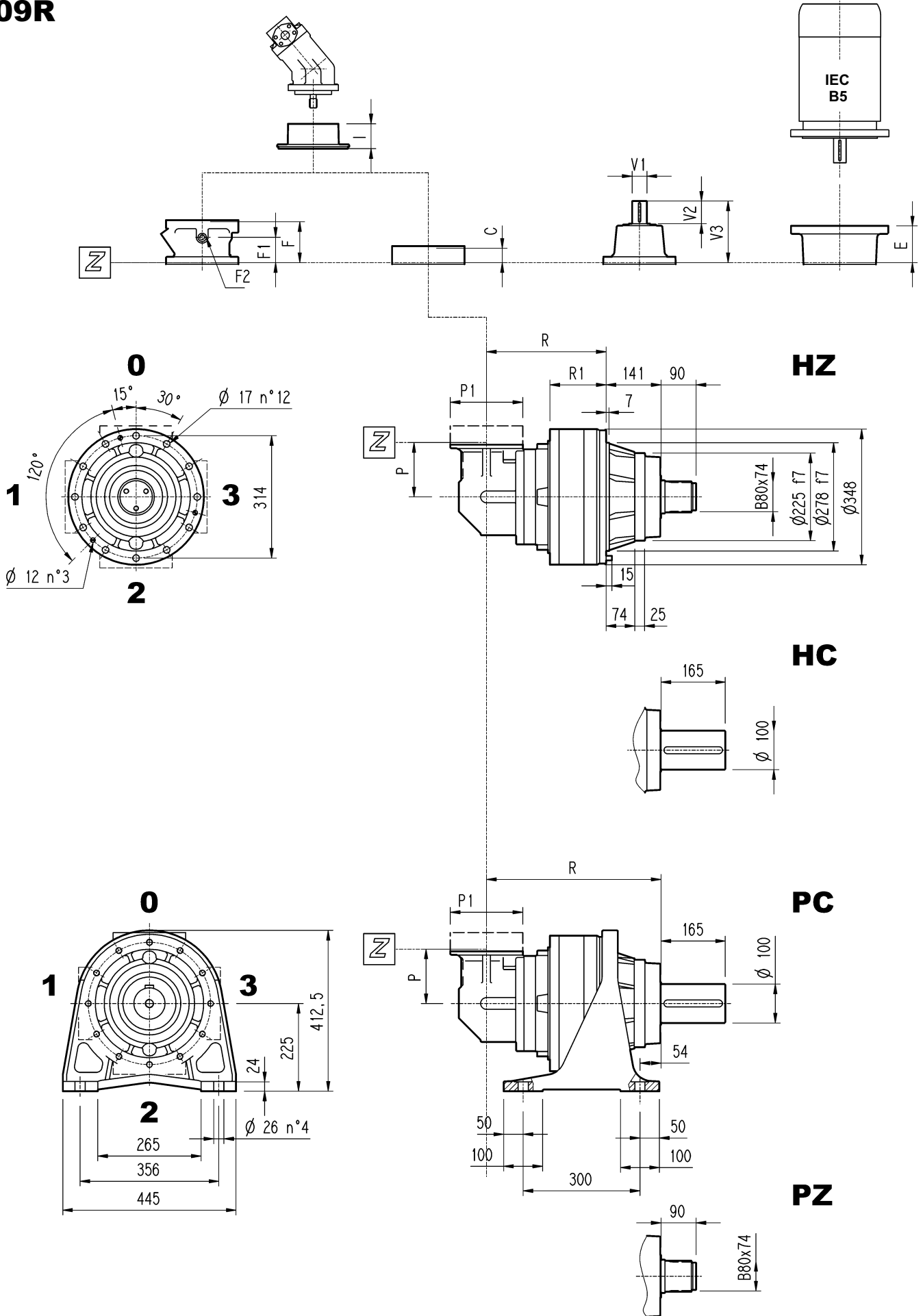


VERSIONE FP FP VERSION VERSION FP VERSION FP	COPPIA MAX. TRANSMISSIBILE MAX. TRANSMISSIBILE TORQUE MAX. ÜBERTR. MOMENT COUPLE MAX. TRANSMISSIBILE	<b>25 000 Nm</b>
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	L				Kg				C	Entrata Input Antrieb Entrée	I	F	F1	F2	Tipo Type Typ Type	Entrata Input Antrieb Entrée	Kg
	HZ HC	PC PZ	FZ	FP	HZ HC	PC PZ	FZ	FP									
<b>309 L1</b>	126	267	99	101	115	130	95	100	51	B	↔	201	153	1/4 G	6	B	28
<b>309 L2</b>	215	356	188	190	127	142	107	112	37	A	↔	145	95	1/4 G	5	A	16
<b>309 L3</b>	280	421	253	255	134	149	114	119	37	A	↔	105	65	1/4 G	4	A	10
<b>309 L4</b>	333	474	306	308	138	153	118	123	37	A	↔	105	65	1/4 G	4	A	10

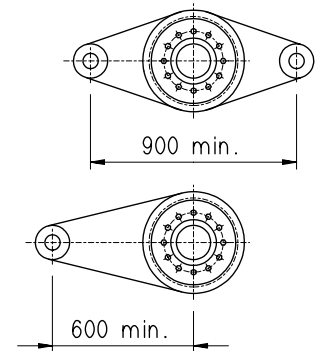
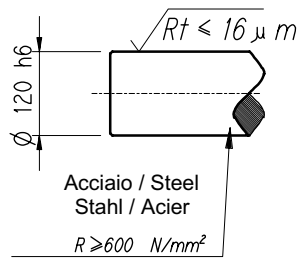
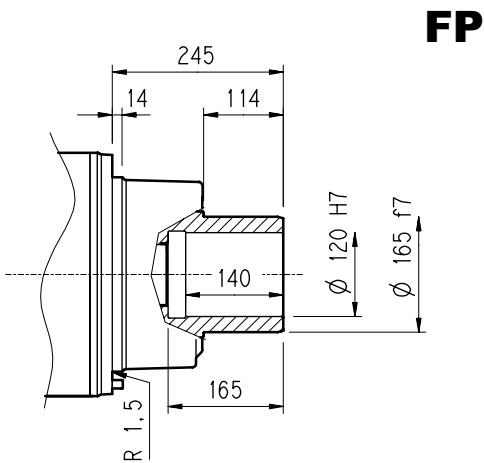
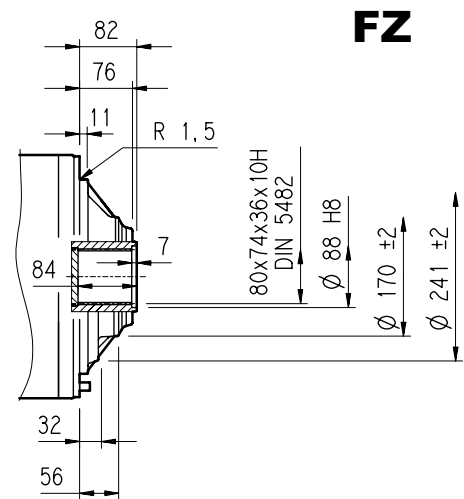
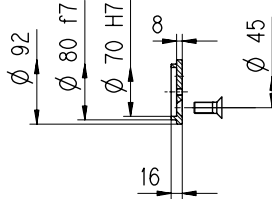
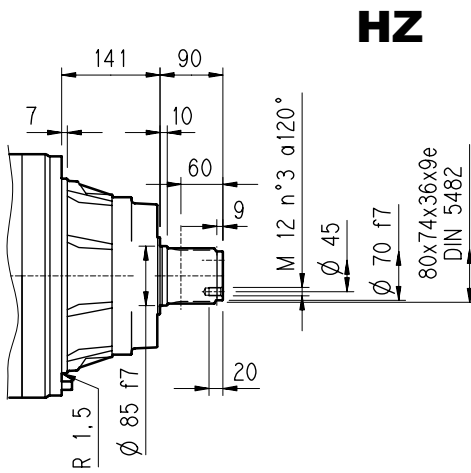
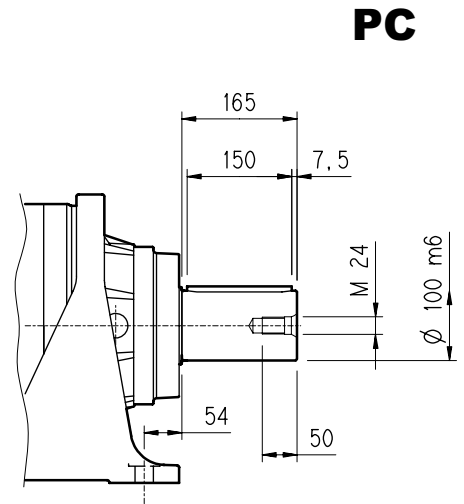
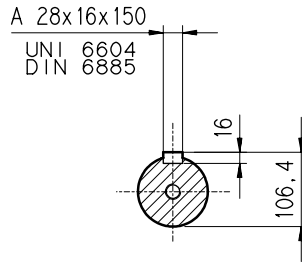
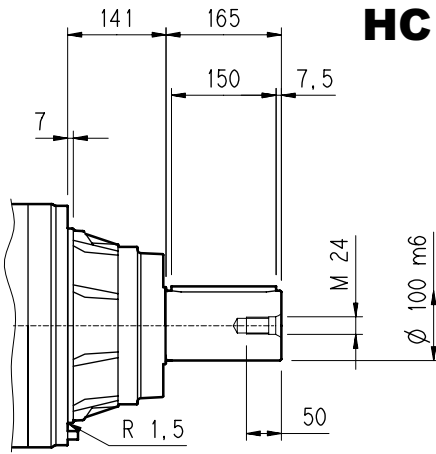
	V1	V2	V3	Kg	V1	V2	V3	Kg	E											
									IEC 71	IEC 80	IEC 90	IEC 100	IEC 112	IEC 132	IEC 160	IEC 180	IEC 200	IEC 225	IEC 250	
<b>309 L1</b>	80	130	315	35	60	105	313	28												
<b>309 L2</b>	48	82	239	15										114	144		195	186	216	215
<b>309 L3</b>	24	36	137.5	6	38	58	158	7	65	84	84	94	94	114	144					
<b>309 L4</b>	24	36	137.5	6	38	58	158	7	65	84	84	94	94	114	144					

# 309R





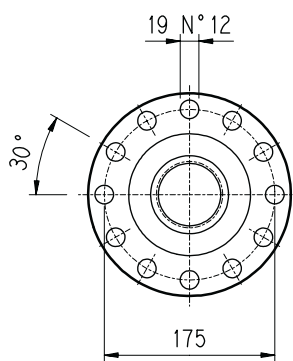
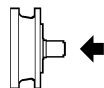
# 309L - 309R



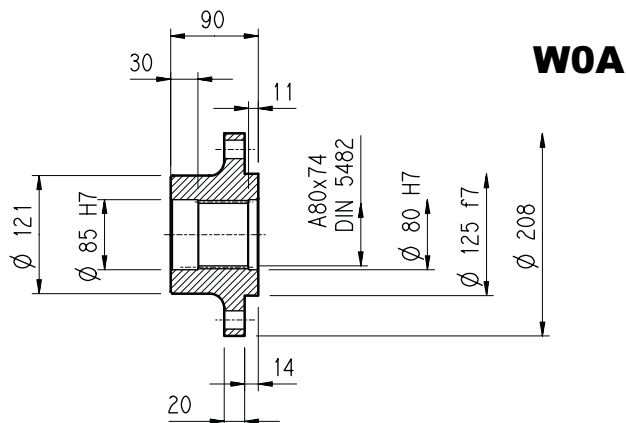
VERSIONE FP FP VERSION VERSION FP VERSION FP	COPPIA MAX. TRASMISSIBILE MAX. TRANSMISSIBLE TORQUE MAX. ÜBERTR. MOMENT COUPLE MAX. TRANSMISSIBLE	<b>25 000 Nm</b>
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Flangia / Flange  
Flansch / Brides

309L - 309R

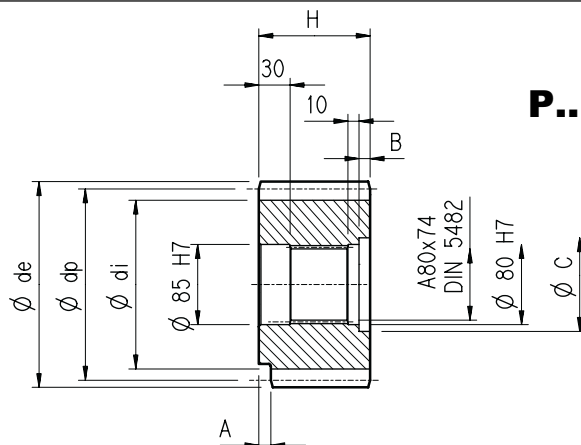
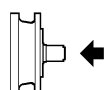


Materiale : Acciaio C40  
Material : Steel C40  
Material : Stahl C40  
Màterial : Acier C40



WOA

Pignoni per rotazione / Output pinions  
Ritzel / Pignons

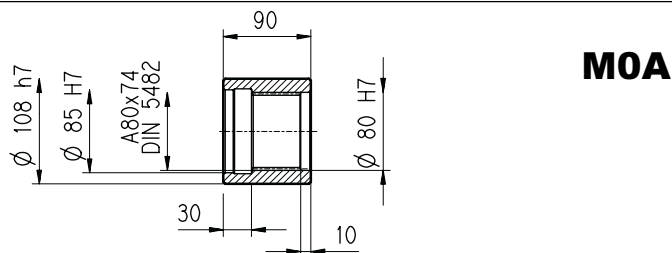
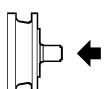


P...

	m	z	x	dp	di	de	H	A	B	C	★
PFG	8	16	0.500	128	117	149.5	90	0	0	0	■
PHC	10	12	0.450	120	104	145	90	0	0	0	■
PHE	10	14	0.320	140	121	162.5	116	13	26	95	■
PHF	10	15	0.150	150	130	171.5	107	20	17	100	■
PHG	10	16	0.500	160	145	186	90	0	0	0	□
PHH1	10	17	0	170	145	190	90	0	0	0	□
PHH2	10	17	0.500	170	154	198	90	0	0	0	□
PLD	12	13	0.500	156	138	192	102	0	12	95	■
PLE	12	14	0.500	168	150	199.2	90	0	0	0	■
PLI	12	18	0.500	216	198	249.6	107	7	17	95	■
PLT	12	26	0	312	282	336	90	10	0	0	□

★	Materiale/Material/Material/Màterial
■	Acciaio 39NiCrMo3 Bonificato Steel 39NiCrMo3 hardened and tempered Vergüteter Stahl 39NiCrMo3 Acier bonifié 39NiCrMo3
□	Acciaio 18NiCrMo5 Cementato e temprato Steel 18NiCrMo5 Case hardened Einsatzstahl 18NiCrMo5 Einsatzgehärtet Acier cementé et tempré 18NiCrMo5

Manicotti lisci / Sleeve couplings  
Naben / Manchons lisses a cannelure interieure

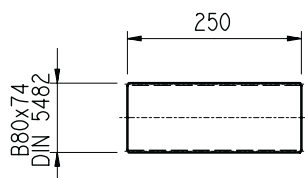
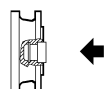


MOA

Materiale : Acciaio 16CrNi4  
Material : Steel 16CrNi4  
Material : Stahl 16CrNi4  
Màterial : Acier 16CrNi4

Barre scanalate / Splined bars  
Vielkeilwellen / Barre cannelée

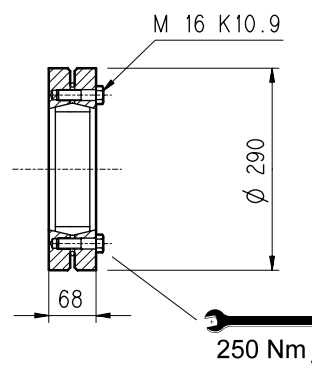
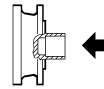
B0A



Mat. acciaio 18NiCrMo5 UNI 5331 da cementare e temprare 50-55 HRC  
Case hardening steel 18NiCrMo5 UNI 5331  
must be case hardened 50-55 HRC  
Material: Einsatzstahl 18NiCrMo5 UNI 5331  
muss einsatzgehärtet werden 50-55 HRC  
Acier 18 NiCrMo5 UNI 5331 doit être cémenté trempé 50-55 HRC

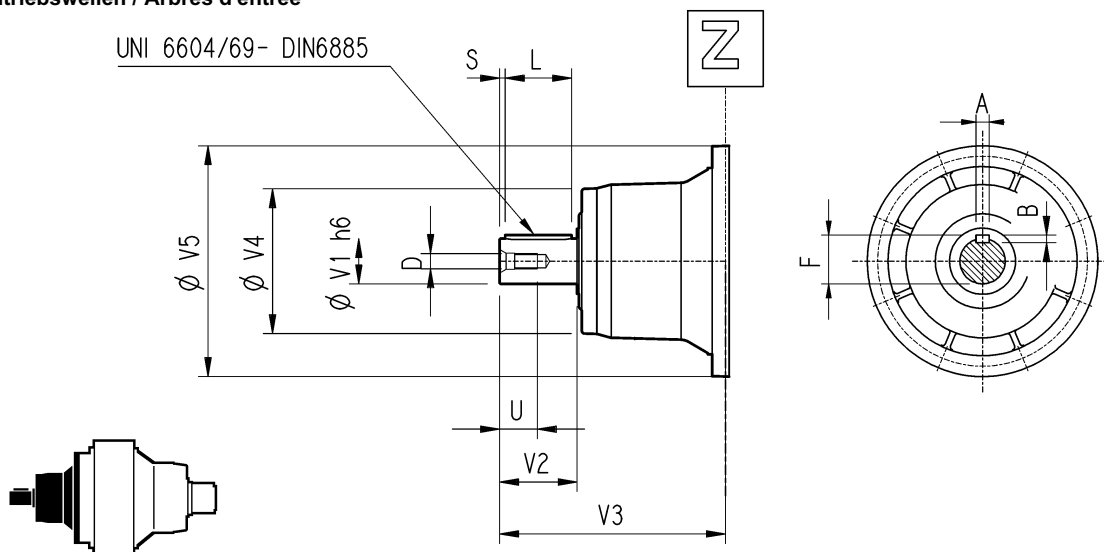
Giunto ad attrito / Shrink disc  
Schrumpfscheibe / Frette de serrage

G0A



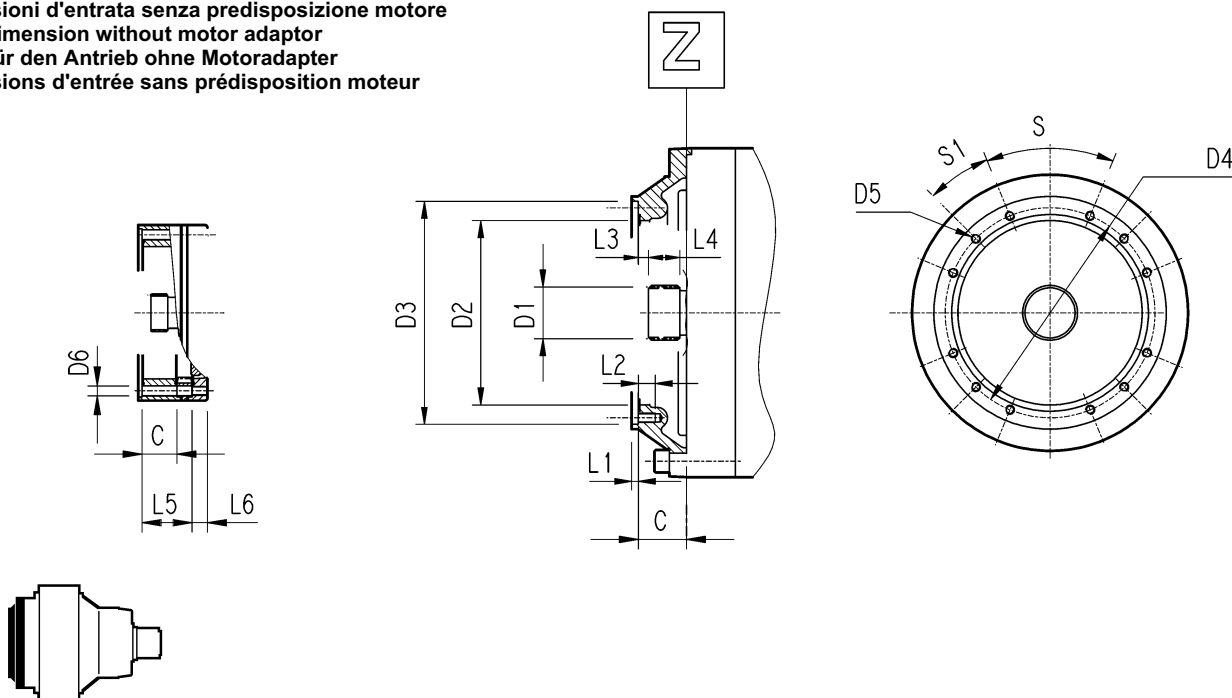
# 309L - 309R

Alberi veloci / Input shaft  
Antriebswellen / Arbres d'entrée



	CODE	V1	V2	V3	V4	V5	A	B	F	L	S	D	U
309 L1	V07B	80	130	315	200	345	22	14	85	110	10	M16	36
	V07A	60	105	313	155	345	18	11	64	90	7.5	M16	36
309 L2	V05B	48	82	239	155	245	14	9	51.5	70	6	M16	36
309 L3	V01A	24	36	137.5	120	186	8	7	27	30	3	M8	19
	V01B	38	58	158	120	186	10	8	41	50	4	M12	28
309 L4	V01A	24	36	137.5	120	186	8	7	27	30	3	M8	19
	V01B	38	58	158	120	186	10	8	41	50	4	M12	28
309 R2	V05B	48	82	239	155	245	14	9	51.5	70	6	M16	36
309 R3-R4	V01A	24	36	137.5	120	186	8	7	27	30	3	M8	19
	V01B	38	58	158	120	186	10	8	41	50	4	M12	28

Dimensioni d'entrata senza predisposizione motore  
Input dimension without motor adaptor  
Maße für den Antrieb ohne Motoradapter  
Dimensions d'entrée sans prédisposition moteur



	C	D1	D2	D3	D4	D5	D6	L1	L2	L3	L4	L5	L6	S	S1	Entrata Input Antrieb Entrée
309 L1	51	58x53 DIN 5482	195	236 H7	222	M10 n°12	/	4	18	11	22	/	/	45°	22.5°	B
309 L2	37	40x36 DIN 5482	140	178 H7	165	M10 n°8	0	4	18	9	18	0	0	45°	45°	A
309 L3	37	40x36 DIN 5482	140	178 H7	165	M10 n°8	11	4	0	9	18	65	18	45°	45°	A
309 L4	37	40x36 DIN 5482	140	178 H7	165	M10 n°8	11	4	0	9	18	118	18	45°	45°	A
309 R2	37	40x36 DIN 5482	140	178 H7	165	M10 n°8	11	4	18	9	18	0	0	45°	45°	A
309 R3-R4	37	40x36 DIN 5482	140	178 H7	165	M10 n°8	11	4	/	9	18	37	18	45°	45°	A

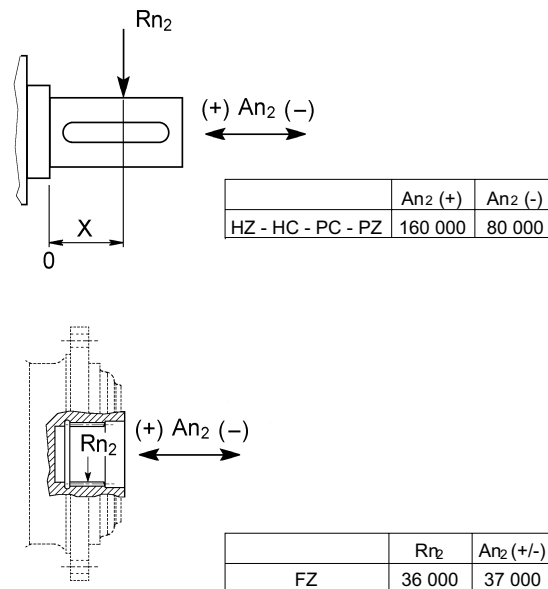
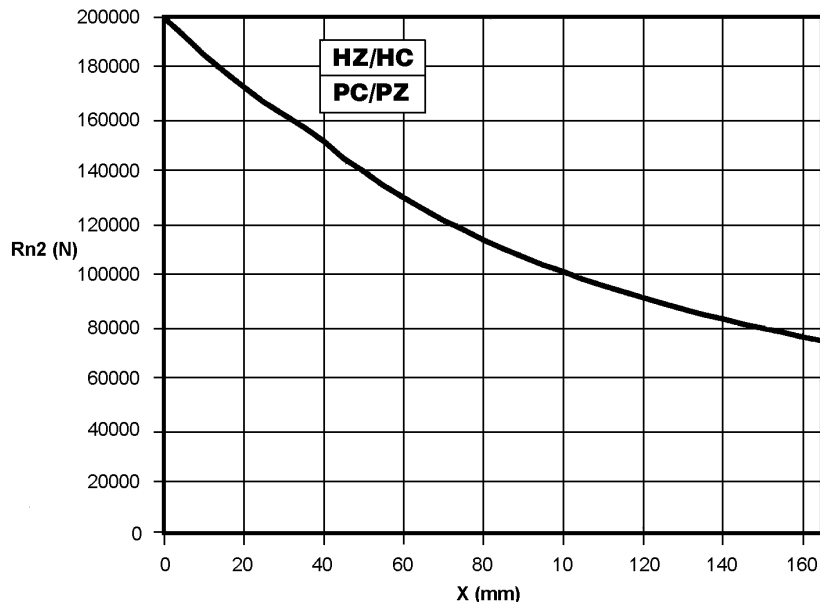
# 309L - 309R

Carichi radiali ed assiali ammissibili sull'albero lento per un valore di  $Fh_2 : n_2 \cdot h = 10\ 000$

Permissible radial and axial loads on output shaft with  $Fh_2 : n_2 \cdot h = 10\ 000$

An der Ausgangswelle zulässige Radiallasten und Axialkräfte für einen Wert von  $Fh_2 : n_2 \cdot h = 10\ 000$

Charges radiales et axiales admissibles sur l'arbre lent pour une valeur de  $Fh_2 : n_2 \cdot h = 10\ 000$



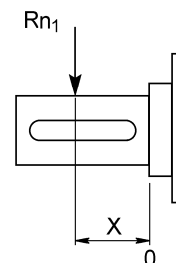
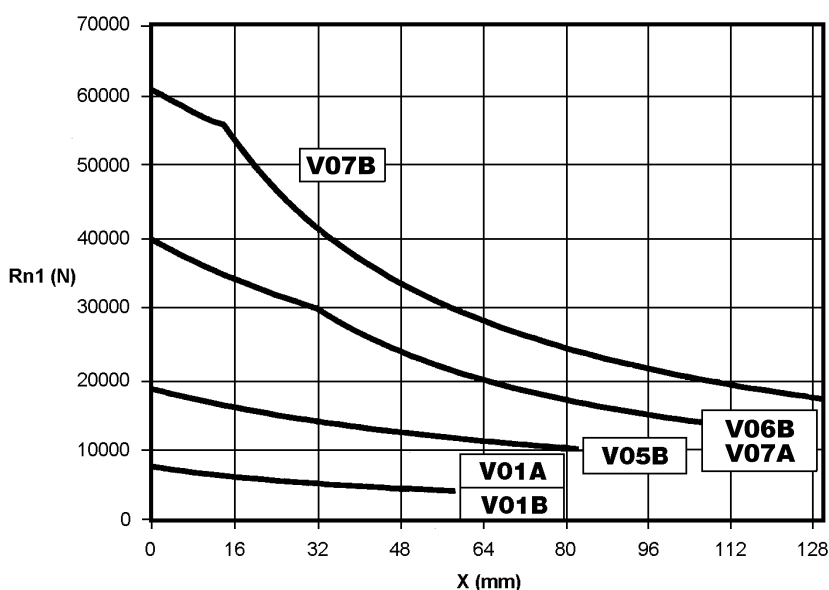
Fattore $fh_2$ correttivo per carichi sugli alberi Load corrective factor $fh_2$ on shafts Korrektionsfaktor $fh_2$ für wellenbelastungen Facteur de correction $fh_2$ pour charges sur les arbres	$fh_2$	$Fh_2 = n_2 \cdot h$	10 000	25 000	50 000	100 000	500 000	1 000 000
		FZ	1	0.74	0.58	0.46	0.27	0.21
		HZ - HC - PC - PZ	1	0.76	0.61	0.50	0.31	0.25

Carichi radiali ammissibili sull'albero veloce per un valore di  $Fh_1 : n_1 \cdot h = 250\ 000$

Permissible radial loads on input shaft with  $Fh_1 : n_1 \cdot h = 250\ 000$

An der Antriebswelle zulässige Radiallasten für einen Wert von  $Fh_1 : n_1 \cdot h = 250\ 000$



Charges radiales admises sur l'arbre d'entrée pour une valeur de  $Fh_1 : n_1 \cdot h = 250\ 000$



Fattore $fh_1$ correttivo per carichi sugli alberi Load corrective factor $fh_1$ on shafts Korrektionsfaktor $fh_1$ für wellenbelastungen Facteur de correction $fh_1$ pour charges sur les arbres	$Fh_1 = n_1 \cdot h$	250 000	500 000	1 000 000	2 000 000	5 000 000	10 000 000
	$fh_1$	1	0.79	0.63	0.50	0.37	0.29

# 310L

# M<sub>2</sub> = 25000 Nm



	i	M <sub>n2</sub> [Nm]						P <sub>1</sub> [kW]	Pt [kW]	n <sub>1</sub> [min <sup>-1</sup> ]	n <sub>1max</sub> [min <sup>-1</sup> ]	M <sub>b</sub> [Nm]	
		n <sub>2</sub> ·h	n <sub>2</sub> ·h	n <sub>2</sub> ·h	n <sub>2</sub> ·h	n <sub>2</sub> ·h	n <sub>2</sub> ·h						
		10 000	25 000	50 000	100 000	500 000	1 000 000						
<b>L1</b>	4.09	30 000	30 000	26 200	21 300	13 100	10 700	150	35	1 000	1 500		
	5.25	29 500	25 400	22 700	20 500	12 700	10 300	150	35	1 000	1 500		
	6.23	26 000	21 200	18 100	17 800	12 600	10 200	150	35	1 000	1 500		
<b>L2</b>	14.7	30 000	29 800	26 200	21 300	13 100	10 700	75	22	1 500	3 000	2 100	6G
	17.4	30 000	30 000	26 200	21 300	13 100	10 700	75	22	1 500	3 000	2 100	6G
	21.8	30 000	30 000	26 200	21 300	13 100	10 700	75	22	1 500	3 000	1 500	6E
	25.4	26 100	25 800	25 800	21 300	13 100	10 700	75	22	1 500	3 000	1 500	6E
	28.0	29 500	25 400	22 700	20 500	12 700	10 300	75	22	1 500	3 000	1 500	6E
	30.7	21 800	21 800	21 800	19 900	12 300	10 000	75	22	1 500	3 000	1 100	6C
	32.6	29 500	25 400	22 700	20 500	12 700	10 300	75	22	1 500	3 000	1 100	6C
	38.6	26 000	21 200	18 100	17 800	12 600	10 200	75	22	1 500	3 000	850	6B
	46.7	26 000	21 200	18 100	17 800	12 600	10 200	71	22	1 500	3 000	850	6B
	<b>L3</b>	53.0	29 100	29 100	26 200	21 300	13 100	10 700	40	18	1 800	3 800	630
62.6		30 000	29 800	26 200	21 300	13 100	10 700	40	18	1 800	3 800	630	5E
73.9		30 000	30 000	26 200	21 300	13 100	10 700	40	18	1 800	3 800	500	5C
80.3		29 500	25 400	22 700	20 500	12 700	10 300	40	18	1 800	3 800	400	5B
91.3		24 900	24 900	21 400	17 400	10 700	8 700	40	18	1 800	3 800	400	5B
101		29 500	25 400	22 700	20 500	12 700	10 300	40	18	1 800	3 800	400	5B
110		22 900	22 900	22 500	18 300	11 300	9 200	36	18	1 800	3 800	400	5B
119		29 500	25 400	22 700	20 500	12 700	10 300	40	18	1 800	3 800	400	5B
130		27 000	27 000	25 300	20 500	12 700	10 300	36	18	1 800	3 800	400	5B
142		29 300	25 400	22 700	20 500	12 700	10 300	35	18	1 800	3 800	400	5B
164		30 000	30 000	26 200	21 300	13 100	10 700	32	18	1 800	3 800	400	5B
177		26 000	21 200	18 100	17 800	12 600	10 200	26	18	1 800	3 800	400	5B
202		29 500	25 400	22 700	20 500	12 700	10 300	26	18	1 800	3 800	400	5B
230		21 800	21 800	21 800	19 900	12 300	10 000	17.3	18	1 800	3 800	400	5B
249		26 000	21 200	18 100	17 800	12 600	10 200	20	18	1 800	3 800	400	5B
295	28 000	25 400	22 700	20 500	12 700	10 300	17.3	18	1 800	3 800	400	5B	
350	26 000	21 200	18 100	17 800	12 600	10 200	14.7	18	1 800	3 800	400	5B	
<b>L4</b>	389	24 900	24 900	21 400	17 400	10 700	8 700	18.9	11	2 000	4 000	100	4B
	451	30 000	25 700	20 900	16 900	10 500	8 500	19.7	11	2 000	4 000	100	4B
	507	29 500	25 400	22 700	20 500	12 700	10 300	17.5	11	2 000	4 000	100	4B
	556	27 000	27 000	25 300	20 500	12 700	10 300	14.4	11	2 000	4 000	50	4A
	637	22 900	22 900	22 500	18 300	11 300	9 200	10.6	11	2 000	4 000	50	4A
	726	29 500	25 400	22 700	20 500	12 700	10 300	12.2	11	2 000	4 000	50	4A
	818	29 300	25 400	22 700	20 500	12 700	10 300	10.6	11	2 000	4 000	50	4A
	939	27 000	27 000	25 300	20 500	12 700	10 300	8.5	11	2 000	4 000	50	4A
	1 021	29 300	25 400	22 700	20 500	12 700	10 300	8.5	11	2 000	4 000	50	4A
	1 164	29 500	25 400	22 700	20 500	12 700	10 300	7.6	11	2 000	4 000	50	4A
	1 259	28 000	25 400	22 700	20 500	12 700	10 300	7.0	11	2 000	4 000	50	4A
	1 438	26 000	21 200	18 100	17 800	12 600	10 200	6.2	11	2 000	4 000	50	4A
	1 657	21 800	21 800	21 800	19 900	12 300	10 000	5.4	11	2 000	4 000	50	4A
	1 794	26 000	21 200	18 100	17 800	12 600	10 200	4.9	11	2 000	4 000	50	4A
	2 022	26 000	21 200	18 100	17 800	12 600	10 200	4.4	11	2 000	4 000	50	4A
2 523	26 000	21 200	18 100	17 800	12 600	10 200	3.5	11	2 000	4 000	50	4A	

$$M_{2max} = 1.2 \cdot M_{n2} \quad (n_2 \cdot h = 10\,000)$$



# M<sub>2</sub> = 25000 Nm

# 310R

	i	M <sub>n2</sub> [Nm]						P <sub>1</sub> [kW]	P <sub>t</sub> [kW]	n <sub>1</sub> [min <sup>-1</sup> ]	n <sub>1max</sub> [min <sup>-1</sup> ]	M <sub>b</sub> [Nm]	
		n <sub>2</sub> ·h 10 000	n <sub>2</sub> ·h 25 000	n <sub>2</sub> ·h 50 000	n <sub>2</sub> ·h 100 000	n <sub>2</sub> ·h 500 000	n <sub>2</sub> ·h 1 000 000						
<b>R2 (A)</b>	17.7	14 800	14 300	14 300	14 300	9 500	7 700	130	55	1 800	3 800	1 000	5K
	22.7	18 300	18 300	18 300	18 300	12 700	8 700	130	55	1 800	3 800	1 000	5K
	27.0	21 800	21 200	18 700	17 800	12 600	9 100	130	55	1 800	3 800	1 000	5K
<b>R2 (B)</b>	12.0	28 200	27 800	25 000	21 300	13 100	10 700	130	55	1 500	2 500	3 200	6L
	15.4	29 500	25 400	22 700	20 500	12 700	10 300	130	55	1 500	2 500	2 600	6K
	18.3	26 000	21 200	18 100	17 800	12 600	10 200	130	55	1 500	2 500	2 100	6G
<b>R3</b>	37.7	14 800	12 600	10 300	8 300	5 100	4 150	35	20	1 800	3 800	440	4L
	44.6	17 100	14 200	11 500	9 400	5 800	4 700	35	20	1 800	3 800	440	4L
	55.9	20 700	16 600	13 500	11 000	6 800	5 500	35	20	1 800	3 800	400	4K
	65.0	23 500	18 500	15 000	12 200	7 500	6 100	35	20	1 800	3 800	400	4K
	71.8	25 500	19 800	16 100	13 100	8 100	6 500	35	20	1 800	3 800	400	4K
	78.6	21 800	21 100	17 100	13 900	8 600	7 000	35	20	1 800	3 800	330	4H
	83.4	28 900	22 000	17 900	14 500	9 000	7 300	35	20	1 800	3 800	400	4K
	99.0	26 000	21 200	18 100	16 400	10 100	8 200	35	20	1 800	3 800	330	4H
	120	26 000	21 200	18 100	17 800	11 500	9 400	35	20	1 800	3 800	260	4F
	<b>R4</b>	136	29 100	29 100	24 400	19 800	12 200	9 900	35	14	2 000	4 000	260
160		30 000	29 800	26 200	21 300	13 100	10 700	35	14	2 000	4 000	260	4F
189		30 000	30 000	26 200	21 300	13 100	10 700	35	14	2 000	4 000	260	4F
206		29 500	25 400	22 700	20 500	12 700	10 300	35	14	2 000	4 000	160	4D
234		24 900	24 900	21 400	17 400	10 700	8 700	32	14	2 000	4 000	160	4D
258		29 500	25 400	22 700	20 500	12 700	10 300	34	14	2 000	4 000	160	4D
283		22 900	22 900	22 500	18 300	11 300	9 200	24	14	2 000	4 000	100	4B
305		29 500	25 400	22 700	20 500	12 700	10 300	29	14	2 000	4 000	100	4B
334		27 000	27 000	25 300	20 500	12 700	10 300	24	14	2 000	4 000	100	4B
363		29 300	25 400	22 700	20 500	12 700	10 300	24	14	2 000	4 000	100	4B
419		30 000	30 000	26 200	21 300	13 100	10 700	21	14	2 000	4 000	100	4B
454		26 000	21 200	18 100	17 800	12 600	10 200	19.4	14	2 000	4 000	100	4B
517		29 500	25 400	22 700	20 500	12 700	10 300	17.2	14	2 000	4 000	100	4B
590		21 800	21 800	21 800	19 900	12 300	10 000	12.6	14	2 000	4 000	50	4A
639		26 000	21 200	18 100	17 800	12 600	10 200	13.9	14	2 000	4 000	50	4A
757		28 000	25 400	22 700	20 500	12 700	10 300	11.7	14	2 000	4 000	50	4A
898	26 000	21 200	18 100	17 800	12 600	10 200	9.9	14	2 000	4 000	50	4A	

$$M_{2max} = 1.2 \cdot M_{n2} \quad (n_2 \cdot h = 10\,000)$$

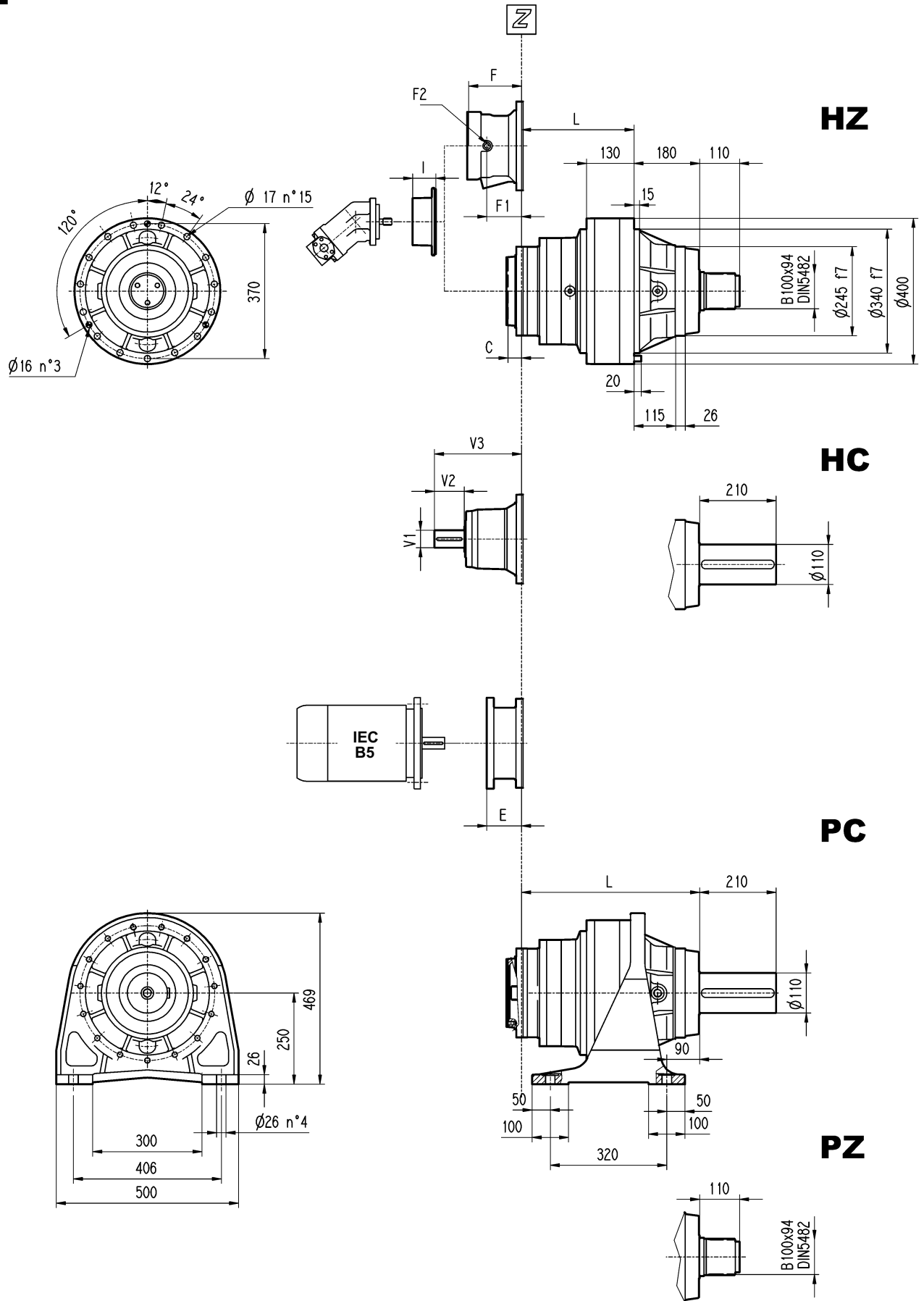
Nota: i contrassegni (A) (B) (C) sulla stessa grandezza, indicano riduzioni angolari di dimensioni differenti: vedere le pagine dimensionali.

Note: Letters (A) (B) (C) near size indication identify different angle reduction dimensions. See pages relevant to dimensions.

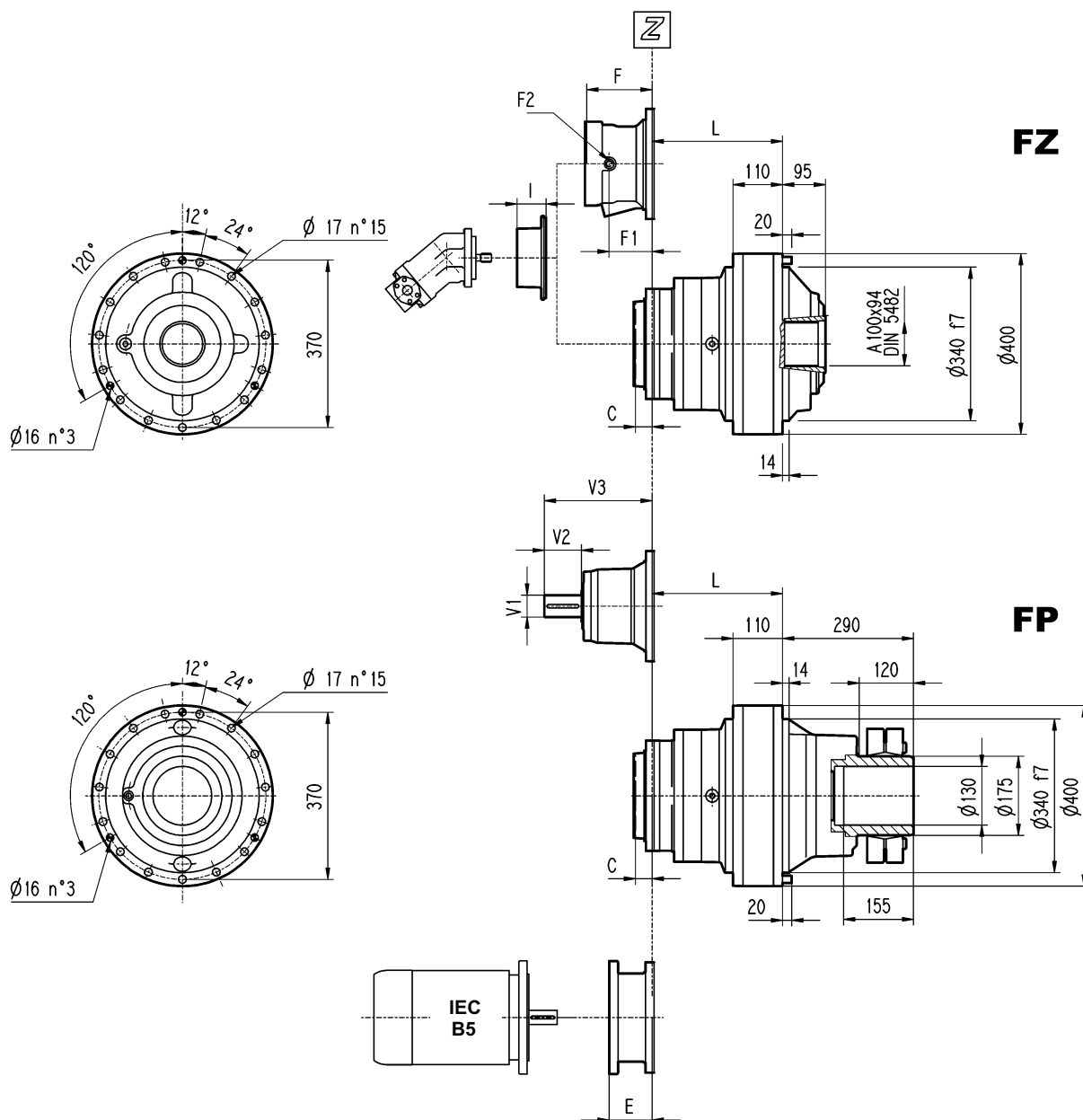
Hinweis: Die Kennzeichnungen (A) (B) (C) an der gleichen Baugröße weisen auf die Winkelreduzierung in unterschiedlichen Maßen hin: siehe Seiten mit Maßtabellen

Remarque : les indications (A) (B) (C) sur la même taille indique des réductions angulaires de dimensions différentes. Se reporter aux pages des dimensions.

# 310L



# 310L

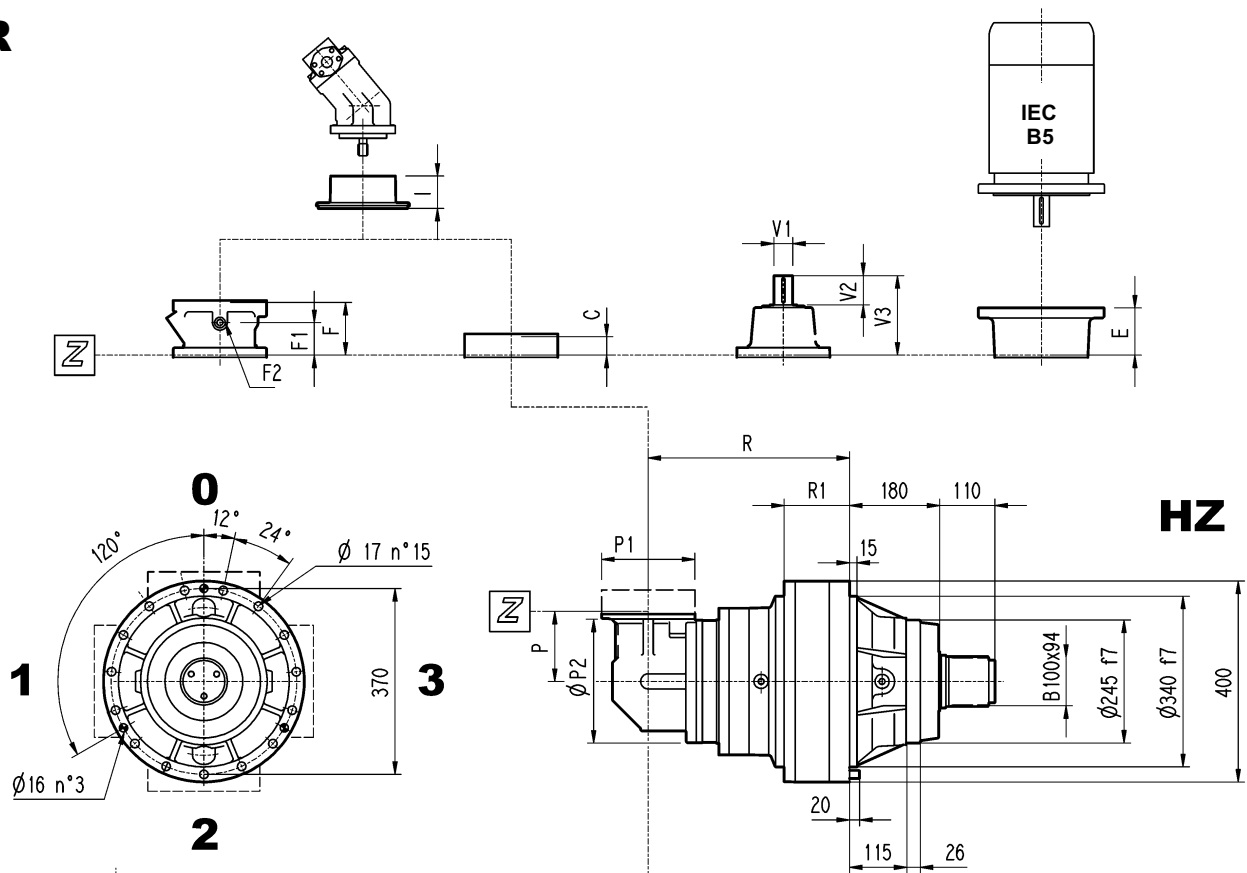


VERSIONE FP FP VERSION VERSION FP VERSION FP	COPPIA MAX. TRASMISSIBILE MAX. TRANSMISSIBLE TORQUE MAX. ÜBERTR. MOMENT COUPLE MAX. TRANSMISSIBLE	<b>36 000 Nm</b>
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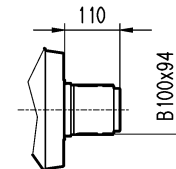
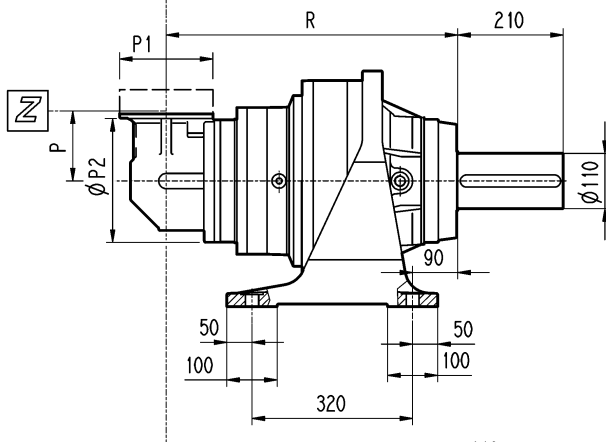
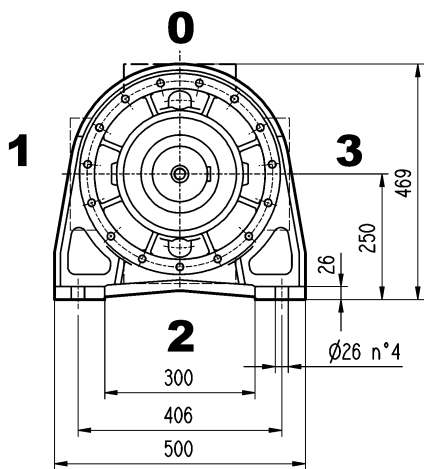
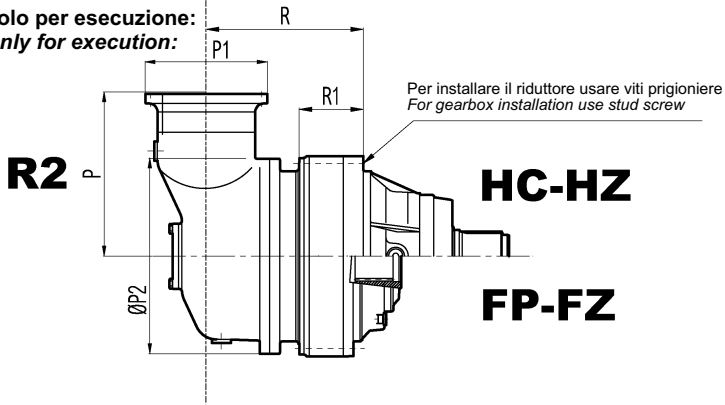
	L				Kg				C	Entrata Input Antrieb Entrée	I	F	F1	F2	Tipo Type Typ	Entrata Input Antrieb Entrée	Kg
	HZ HC	PC PZ	FZ	FP	HZ HC	PC PZ	FZ	FP									
310 L1	108	288	88	88	135	155	110	115	88	C							
310 L2	244	424	224	224	165	185	140	145	45	B	195	147	1/4 G	6	B	28	
310 L3	309	489	289	289	174	194	149	154	37	A	145	95	1/4 G	5	A	16	
310 L4	362	542	342	342	178	198	153	158	37	A	105	65	1/4 G	4	A	10	

	V1	V2	V3	Kg	V1	V2	V3	Kg	E											
									IEC 71	IEC 80	IEC 90	IEC 100	IEC 112	IEC 132	IEC 160	IEC 180	IEC 200	IEC 225	IEC 250	
310 L1	80	130	377	50													280	310	290	
310 L2	60	105	307	23													152	182	212	193
310 L3	48	82	239	15									114	144	144	174				
310 L4	24	36	137.5	6	38	58	158	7	65	84	84	94	94	114	144					

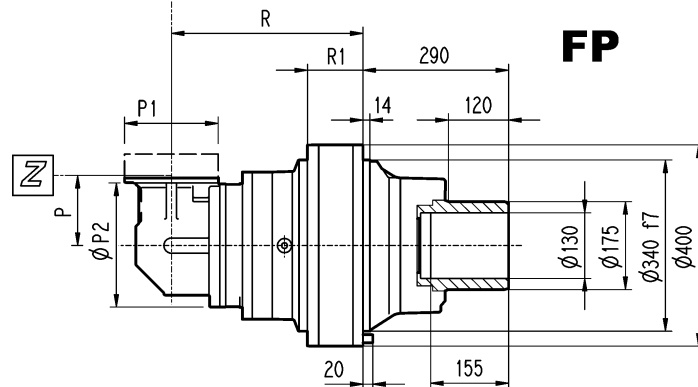
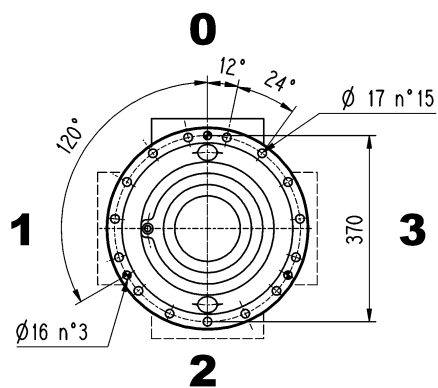
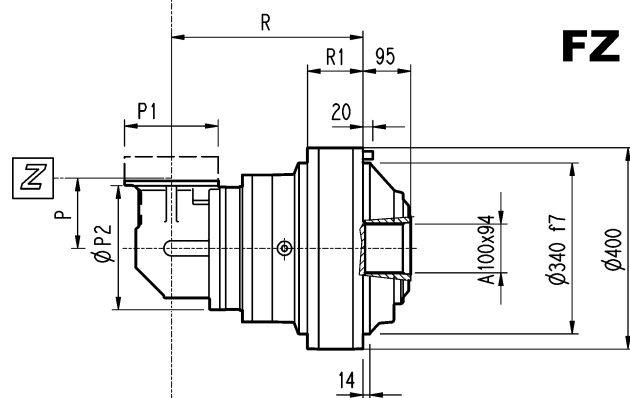
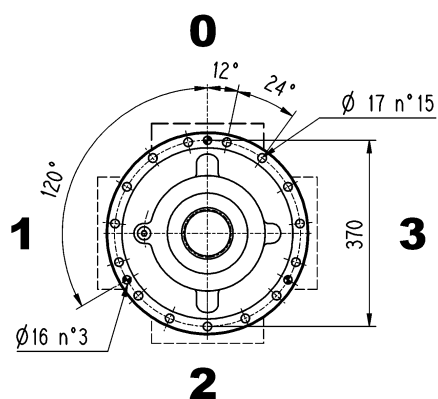
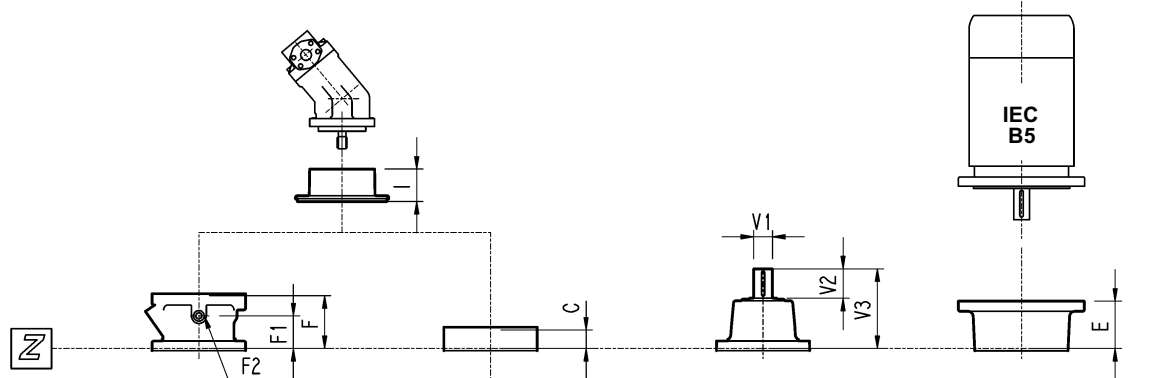
# 310R



Solo per esecuzione:  
Only for execution:



# 310R



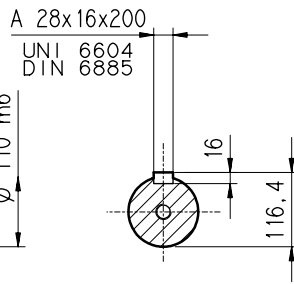
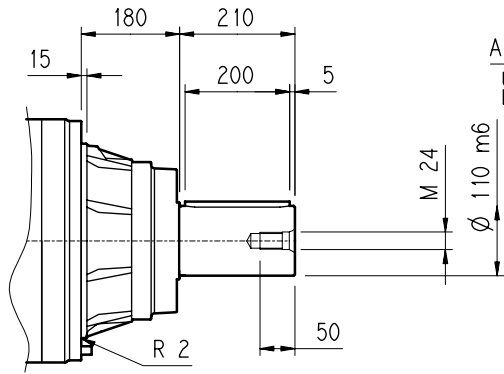
VERSIONE FP	COPPIA MAX. TRASMISSIBILE	<b>36 000 Nm</b>
FP VERSION	MAX. TRASMISSIBILE TORQUE	
VERSION FP	MAX. ÜBERTR. MOMENT	
VERSION FP	COUPLE MAX. TRASMISSIBILE	

	R				R1				P	P1	P2	Kg				C	Entrata Input Antrieb Entrée	I	F	F1	F2	Tipo Type Typ Type	Entrata Input Antrieb Entrée	Kg
	HZ HC	PC PZ	FZ	FP	HZ HC	PC PZ	FZ	FP				HZ HC	PC PZ	FZ	FP									
<b>310 R2 (B)</b>	315	495	295	295	198	-	178	178	345	292	400	260	280	240	250	45	B	195	147	1/4 G	6	B	28	
<b>310 R2 (A)</b>	315	495	295	295	178	-	158	158	330	245	345	240	260	220	230	37	A	145	95	1/4 G	5	A	16	
<b>310 R3</b>	381	561	361	361	130	-	110	110	140	186	244	189	209	164	169	37	A	105	65	1/4 G	4	A	10	
<b>310 R4</b>	401	581	381	381	130	-	110	110	140	186	244	194	214	169	174	37	A	105	65	1/4 G	4	A	10	

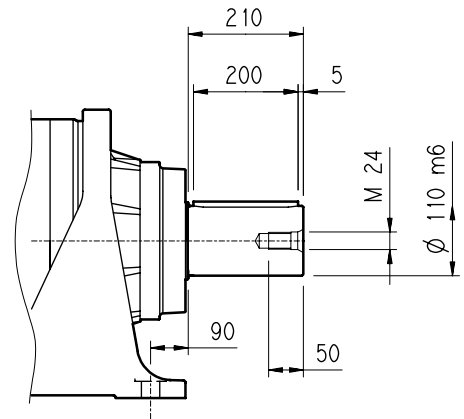
	V1	V2	V3	Kg	V1	V2	V3	Kg	E												
									IEC 63	IEC 71	IEC 80	IEC 90	IEC 100	IEC 112	IEC 132	IEC 160	IEC 180	IEC 220	IEC 225		
<b>310 R2 (B)</b>	60	105	307	23																	
<b>310 R2 (A)</b>	48	82	239	15											114	144	144	174	174		
<b>310 R3</b>	24	36	137.5	6	38	58	158	7	65	84	84	94	94	114	144						
<b>310 R4</b>	24	36	137.5	6	38	58	158	7	65	84	84	94	94	114	144						

# 310L - 310R

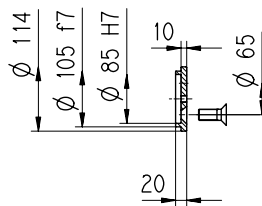
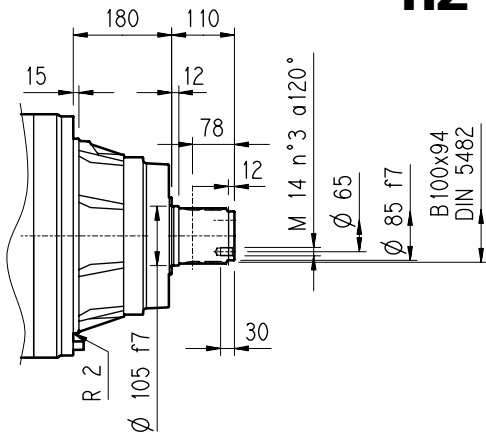
## HC



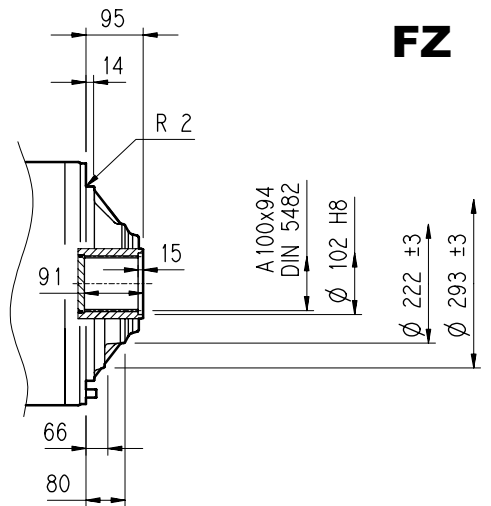
## PC



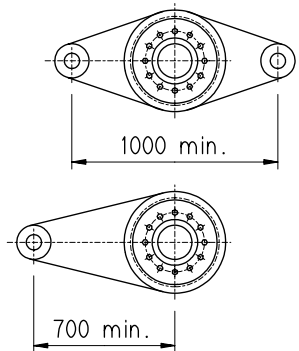
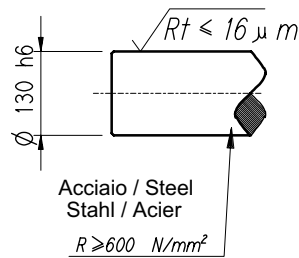
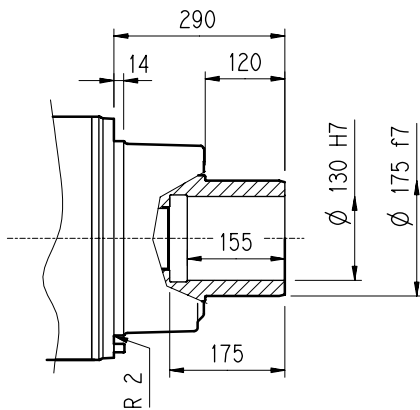
## HZ



## FZ



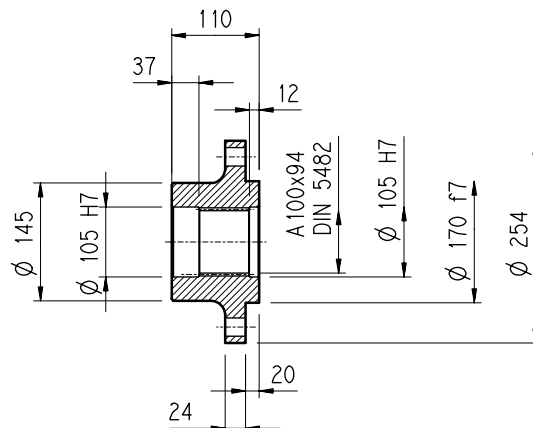
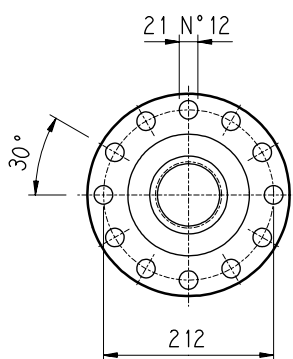
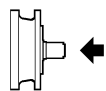
## FP



VERSIONE FP FP VERSION VERSION FP VERSION FP	COPPIA MAX. TRASMISSIBILE MAX. TRANSMISSIBLE TORQUE MAX. ÜBERTR. MOMENT COUPLE MAX. TRANSMISSIBLE	<b>36 000 Nm</b>
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Flangia / Flange  
Flansch / Brides

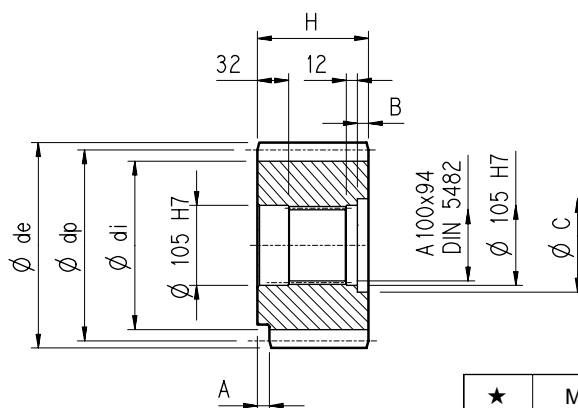
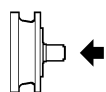
310L - 310R



WOA

Materiale : Acciaio C40  
Material : Steel C40  
Material : Stahl C40  
Màterial : Acier C40

Pignoni per rotazione / Output pinions  
Ritzel / Pignons

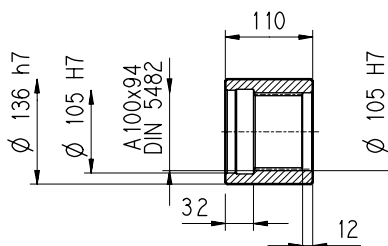
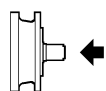


P...

	m	z	x	dp	di	de	H	A	B	C	★
PLQ	12	23	0	276	246	300	110	0	0	0	□
PPD	16	13	0.500	208	184	252.5	145	0	35	116	■
PPF	16	15	0.450	240	215	280	125	0	15	120	□

★	Materiale/Material/Material/Màterial
■	Acciaio 39NiCrMo3 Bonificato Steel 39NiCrMo3 hardened and tempered Vergüteter Stahl 39NiCrMo3 Acier bonifié 39NiCrMo3
□	Acciaio 18NiCrMo5 Cementato e temprato Steel 18NiCrMo5 Case hardened Einsatzstahl 18NiCrMo5 Einsatzgehärtet Acier cémenté et tempré 18NiCrMo5

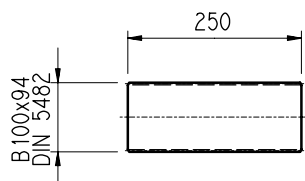
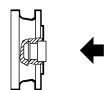
Manicotti lisci / Sleeve couplings  
Naben / Manchons lisses a cannelure interieure



MOA

Materiale : Acciaio 16CrNi4  
Material : Steel 16CrNi4  
Material : Stahl 16CrNi4  
Màterial : Acier 16CrNi4

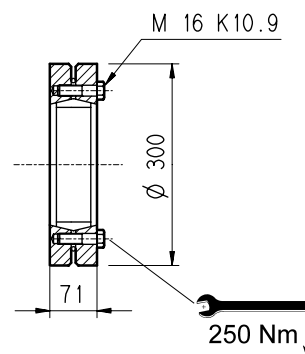
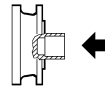
Barre scanalate / Splined bars  
Vielkeilwellen / Barre cannelée



B0A

Mat. acciaio 18NiCrMo5 UNI 5331 da cementare e temprare 50-55 HRC  
Case hardening steel 18NiCrMo5 UNI 5331  
must be case hardened 50-55 HRC  
Material: Einsatzstahl 18NiCrMo5 UNI 5331  
muss einsatzgehärtet werden 50-55 HRC  
Acier 18 NiCrMo5 UNI 5331 doit être cémenté trempé 50-55 HRC

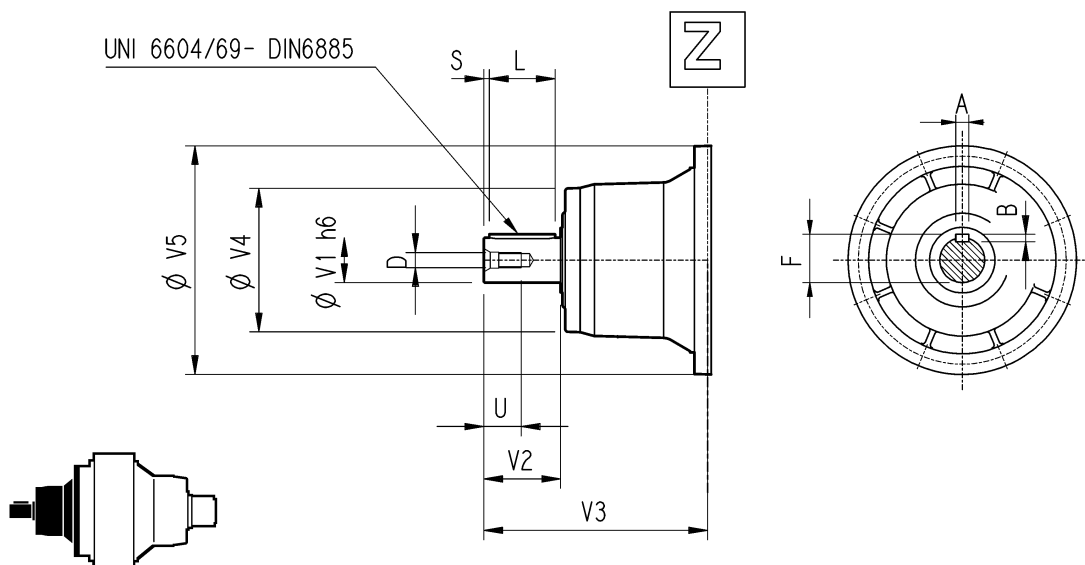
Giunto ad attrito / Shrink disc  
Schrumpfscheibe / Frette de serrage



G0A

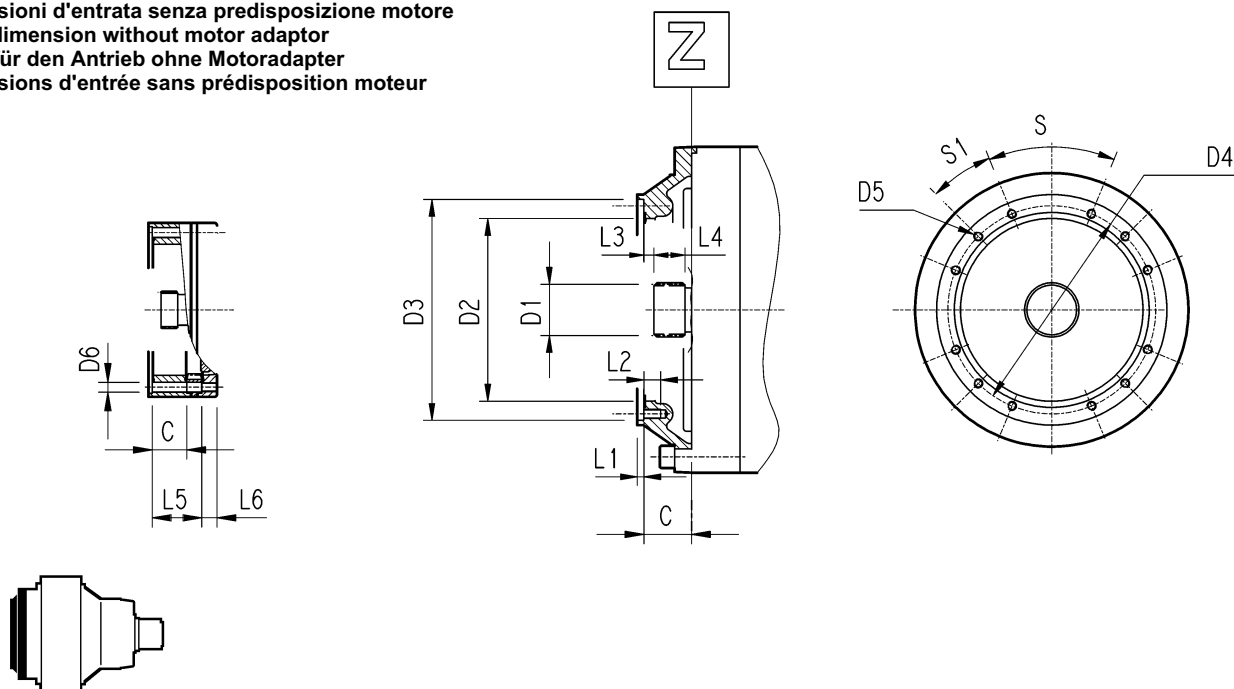
# 310L - 310R

Alberi veloci / Input shaft  
Antriebswellen / Arbres d'entrée



	CODE	V1	V2	V3	V4	V5	A	B	F	L	S	D	U
<b>310 L1</b>	V10B	80	130	377	200	400	22	14	85	110	10	M16	36
<b>310 L2</b>	V06B	60	105	307	155	292	18	11	64	90	7.5	M16	36
<b>310 L3</b>	V05B	48	82	239	155	245	14	9	51.5	70	6	M16	36
<b>310 L4</b>	V01A	24	36	137.5	120	186	8	7	27	30	3	M8	19
	V01B	38	58	158	120	186	10	8	41	50	4	M12	28
<b>310 R2 (B)</b>	V10B	80	130	377	200	400	22	14	85	110	10	M16	36
<b>310 R2 (A)</b>	V06B	60	105	307	155	292	18	11	64	90	7.5	M16	36
<b>310 R3-R4</b>	V01A	24	36	137.5	120	186	8	7	27	30	3	M8	19
	V01B	38	58	158	120	186	10	8	41	50	4	M12	28

Dimensioni d'entrata senza predisposizione motore  
Input dimension without motor adaptor  
Maße für den Antrieb ohne Motoradapter  
Dimensions d'entrée sans prédisposition moteur



	C	D1	D2	D3	D4	D5	D6	L1	L2	L3	L4	L5	L6	S	S1	Entrata Input Antrieb Entrée
<b>310 L1</b>	88	70x64 DIN 5482	200	282 H7	266	M12 n°12	/	4	22	11	32	/	/	45°	45°	C
<b>310 L2</b>	45	58x53 DIN 5482	195	236 H7	222	M10 n°12	/	4	18	11	22	/	/	45°	22.5°	B
<b>310 L3</b>	37	40x36 DIN 5482	140	178 H7	165	M10 n°8	0	4	18	9	18	0	0	45°	45°	A
<b>310 L4</b>	37	40x36 DIN 5482	140	178 H7	165	M10 n°8	11	4	0	9	18	53	18	45°	45°	A
<b>310 R2 (B)</b>	45	58x53 DIN 5482	195	236 H7	222	M10 n°12	/	4	18	11	22	/	/	45°	22.5°	B
<b>310 R2 (A)-R3-R4</b>	37	40x36 DIN 5482	140	178 H7	165	M10 n°8	11	4	/	9	18	37	18	45°	45°	A



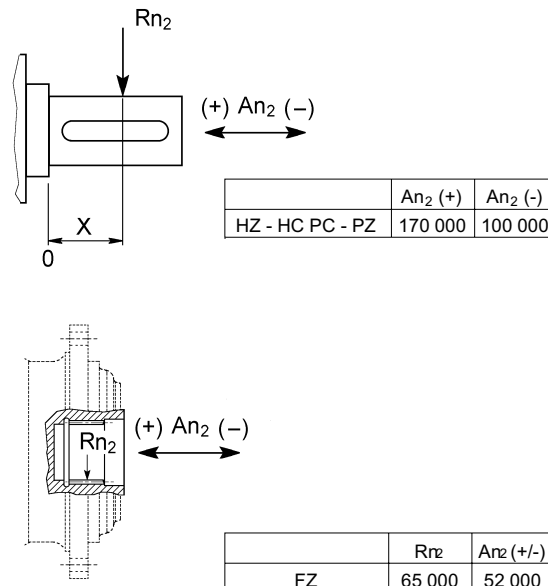
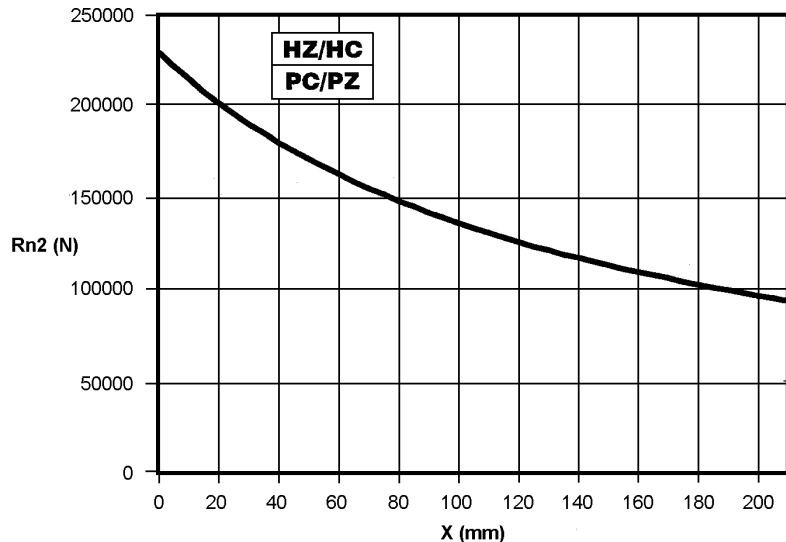
# 310L - 310R

Carichi radiali ed assiali ammissibili sull'albero lento per un valore di  $Fh_2 : n_2 \cdot h = 10\ 000$

Permissible radial and axial loads on output shaft with  $Fh_2 : n_2 \cdot h = 10\ 000$

An der Ausgangswelle zulässige Radiallasten und Axialkräfte für einen Wert von  $Fh_2 : n_2 \cdot h = 10\ 000$

Charges radiales et axiales admises sur l'arbre lent pour une valeur de  $Fh_2 : n_2 \cdot h = 10\ 000$



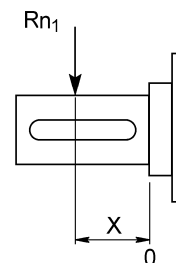
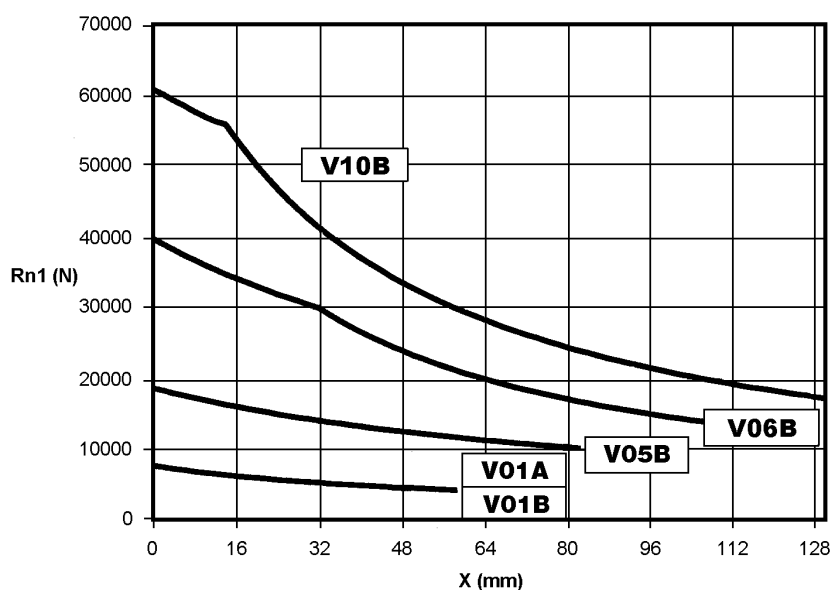
Fattore $fh_2$ correttivo per carichi sugli alberi Load corrective factor $fh_2$ on shafts Korrektionsfaktor $fh_2$ für wellenbelastungen Facteur de correction $fh_2$ pour charges sur les arbres	$fh_2$	$Fh_2 = n_2 \cdot h$	10 000	25 000	50 000	100 000	500 000	1 000 000
		FZ	1	0.74	0.58	0.46	0.27	0.21
		HZ - HC - PC - PZ	1	0.76	0.61	0.50	0.31	0.25

Carichi radiali ammissibili sull'albero veloce per un valore di  $Fh_1 : n_1 \cdot h = 250\ 000$

Permissible radial loads on input shaft with  $Fh_1 : n_1 \cdot h = 250\ 000$

An der Antriebswelle zulässige Radiallasten für einen Wert von  $Fh_1 : n_1 \cdot h = 250\ 000$



Charges radiales admises sur l'arbre d'entrée pour une valeur de  $Fh_1 : n_1 \cdot h = 250\ 000$



Fattore $fh_1$ correttivo per carichi sugli alberi Load corrective factor $fh_1$ on shafts Korrektionsfaktor $fh_1$ für wellenbelastungen Facteur de correction $fh_1$ pour charges sur les arbres	$Fh_1 = n_1 \cdot h$	250 000	500 000	1 000 000	2 000 000	5 000 000	10 000 000
	$fh_1$	1	0.79	0.63	0.50	0.37	0.29

# 311L



## M<sub>2</sub> = 35000 Nm

	i	M <sub>n2</sub> [Nm]						P <sub>1</sub> [kW]	P <sub>t</sub> [kW]	n <sub>1</sub> [min <sup>-1</sup> ]	n <sub>1max</sub> [min <sup>-1</sup> ]	M <sub>b</sub> [Nm]	
		n <sub>2</sub> ·h	n <sub>2</sub> ·h	n <sub>2</sub> ·h	n <sub>2</sub> ·h	n <sub>2</sub> ·h	n <sub>2</sub> ·h						
		10 000	25 000	50 000	100 000	500 000	1 000 000						
<b>L1</b>	4.09	45 000	45 000	37 400	30 300	18 700	15 200	180	35	750	1 000		
	5.25	43 000	36 500	32 300	32 000	19 700	16 000	180	35	750	1 000		
	6.23	34 000	29 500	27 000	27 000	18 600	15 100	180	35	750	1 000		
<b>L2</b>	14.0	35 700	35 700	35 700	30 300	18 700	15 200	100	25	1 500	2 500	3 200	6L
	16.7	45 000	45 000	37 400	30 300	18 700	15 200	100	25	1 500	2 500	3 200	6L
	18.0	43 000	36 500	32 300	32 000	19 700	16 000	100	25	1 500	2 500	2 600	6K
	21.5	44 100	41 700	37 400	30 300	18 700	15 200	100	25	1 500	2 500	2 100	6G
	25.5	35 200	34 500	34 500	30 300	18 700	15 200	100	25	1 500	2 500	1 500	6E
	27.6	43 000	36 500	32 300	32 000	19 700	16 000	100	25	1 500	2 500	2 100	6G
	32.7	43 000	36 500	32 300	32 000	19 700	16 000	100	25	1 500	2 500	1 500	6E
	38.8	34 000	29 500	27 000	27 000	18 600	15 100	100	25	1 500	2 500	850	6B
<b>L3</b>	50.5	35 700	35 700	35 700	30 300	18 700	15 200	60	18	1 800	3 800	800	5G
	60.2	45 000	45 000	37 400	30 300	18 700	15 200	60	18	1 800	3 800	800	5G
	71.1	45 000	45 000	37 400	30 300	18 700	15 200	60	18	1 800	3 800	800	5G
	77.3	44 100	41 700	37 400	30 300	18 700	15 200	60	18	1 800	3 800	800	5G
	87.0	35 700	35 700	35 700	30 300	18 700	15 200	60	18	1 800	3 800	500	5C
	104	45 000	45 000	37 400	30 300	18 700	15 200	60	18	1 800	3 800	500	5C
	115	44 100	41 700	37 400	30 300	18 700	15 200	60	18	1 800	3 800	400	5B
	126	45 000	45 000	37 400	30 300	18 700	15 200	60	18	1 800	3 800	400	5B
	133	44 100	41 700	37 400	30 300	18 700	15 200	56	18	1 800	3 800	400	5B
	147	43 000	36 500	32 300	32 000	19 700	16 000	50	18	1 800	3 800	400	5B
	161	44 100	41 700	37 400	30 300	18 700	15 200	48	18	1 800	3 800	400	5B
	171	43 000	36 500	32 300	32 000	19 700	16 000	44	18	1 800	3 800	400	5B
	191	35 200	34 500	34 500	30 300	18 700	15 200	33	18	1 800	3 800	400	5B
	203	43 000	36 500	32 300	32 000	19 700	16 000	38	18	1 800	3 800	400	5B
245	43 000	36 500	32 300	32 000	19 700	16 000	32	18	1 800	3 800	400	5B	
291	34 000	29 500	27 000	27 000	18 600	15 100	22	18	1 800	3 800	400	5B	
<b>L4</b>	348	45 000	45 000	37 400	30 300	18 700	15 200	30	11	2 000	4 000	160	4D
	410	45 000	45 000	37 400	30 300	18 700	15 200	30	11	2 000	4 000	160	4D
	512	45 000	45 000	37 400	30 300	18 700	15 200	26	11	2 000	4 000	100	4B
	568	44 100	41 700	37 400	30 300	18 700	15 200	23	11	2 000	4 000	100	4B
	626	35 700	35 700	35 700	30 300	18 700	15 200	16.9	11	2 000	4 000	100	4B
	724	45 000	45 000	37 400	30 300	18 700	15 200	18.4	11	2 000	4 000	100	4B
	825	44 100	41 700	37 400	30 300	18 700	15 200	16.1	11	2 000	4 000	100	4B
	904	45 000	45 000	37 400	30 300	18 700	15 200	14.7	11	2 000	4 000	50	4A
	986	43 000	36 500	32 300	32 000	19 700	16 000	13.5	11	2 000	4 000	50	4A
	1 103	35 200	34 500	34 500	30 300	18 700	15 200	11.8	11	2 000	4 000	50	4A
	1 230	43 000	36 500	32 300	32 000	19 700	16 000	10.8	11	2 000	4 000	50	4A
	1 415	43 000	36 500	32 300	32 000	19 700	16 000	9.4	11	2 000	4 000	50	4A
	1 680	34 000	29 500	27 000	27 000	18 600	15 100	7.9	11	2 000	4 000	50	4A
	1 766	43 000	36 500	32 300	32 000	19 700	16 000	7.5	11	2 000	4 000	50	4A
2 096	34 000	29 500	27 000	27 000	18 600	15 100	6.3	11	2 000	4 000	50	4A	

$$M_{2max} = 1.2 \cdot M_{n2} \quad (n_2 \cdot h = 10\,000)$$

# M<sub>2</sub> = 35000 Nm

# 311R

	i	M <sub>n2</sub> [Nm]						P <sub>1</sub>	P <sub>t</sub>	n <sub>1</sub>	n <sub>1max</sub>	M <sub>b</sub>	
		n <sub>2</sub> ·h	n <sub>2</sub> ·h	n <sub>2</sub> ·h	n <sub>2</sub> ·h	n <sub>2</sub> ·h	n <sub>2</sub> ·h						
<b>R2 (A)</b>	17.7	14 800	14 300	14 300	14 300	9 600	7 800	135	75	1 800	3 800	1000	5K
	22.7	18 300	18 300	18 300	18 300	11 500	9 300	135	75	1 800	3 800	1000	5K
	27.0	21 800	21 800	21 800	21 000	12 900	10 500	135	75	1 800	3 800	1000	5K
<b>R2 (B)</b>	12.0	28 200	27 800	25 000	23 800	15 900	12 700	150	75	1 500	2 500	3200	6L
	15.4	35 600	33 600	31 100	30 600	18 800	15 300	150	75	1 500	2 500	3200	6L
	18.3	34 000	29 500	27 000	27 000	18 600	15 100	150	75	1 500	2 500	2600	6K
<b>R2 (C)</b>	16.6	39 300	29 800	23 800	19 400	11 900	9 800	150	90	1 500	2 500	3200	6L
	21.3	43 000	34 600	28 300	22 900	14 300	11 500	150	90	1 500	2 500	2600	6K
	25.3	34 000	29 500	27 000	26 000	16 000	13 000	150	90	1 500	2 500	2100	6G
<b>R3</b>	53.0	31 100	26 800	24 000	22 100	13 700	11 100	85	40	2 000	4 000	800	5G
	63.2	36 000	31 100	28 000	25 000	15 500	12 600	85	40	2 000	4 000	800	5G
	68.0	38 300	33 100	30 100	26 400	16 300	13 200	85	40	2 000	4 000	630	5E
	81.1	44 100	38 400	36 000	29 800	18 400	14 900	85	40	2 000	4 000	630	5E
	96.3	35 200	34 500	34 500	30 300	18 700	15 200	62	40	2 000	4 000	500	5C
	104	43 000	36 500	32 300	32 000	19 700	16 000	67	40	2 000	4 000	500	5C
	124	43 000	36 500	32 300	32 000	19 700	16 000	58	40	2 000	4 000	400	5B
	147	34 000	29 500	27 000	27 000	18 600	15 100	40	40	2 000	4 000	400	5B
<b>R4</b>	154	43 200	32 800	26 700	21 700	13 400	10 900	35	22	2 000	4 000	330	4H
	182	45 000	36 900	29 900	24 300	15 000	12 200	35	22	2 000	4 000	330	4H
	198	44 100	39 100	31 700	25 800	15 900	12 900	35	22	2 000	4 000	260	4F
	223	35 700	35 700	34 500	28 000	17 300	14 000	35	22	2 000	4 000	260	4F
	266	45 000	45 000	37 300	30 300	18 700	15 200	35	22	2 000	4 000	260	4F
	294	44 100	41 700	37 300	30 300	18 700	15 200	35	22	2 000	4 000	160	4D
	322	45 000	45 000	37 300	30 300	18 700	15 200	35	22	2 000	4 000	160	4D
	341	44 100	41 700	37 300	30 300	18 700	15 200	35	22	2 000	4 000	160	4D
	413	44 100	41 700	37 300	30 300	18 700	15 200	32	22	2 000	4 000	160	4D
	438	43 000	36 500	32 300	32 000	19 700	16 000	30	22	2 000	4 000	100	4D
	490	35 200	34 500	34 500	30 300	18 700	15 200	24	22	2 000	4 000	100	4B
	520	43 000	36 500	32 300	32 000	19 700	16 000	24	22	2 000	4 000	100	4B
	629	43 000	36 500	32 300	32 000	19 700	16 000	21	22	2 000	4 000	100	4B
	746	34 000	29 500	27 000	27 000	18 600	15 100	16	22	2 000	4 000	100	4B

$$M_{2max} = 1.2 \cdot M_{n2} \quad (n_2 \cdot h = 10\,000)$$

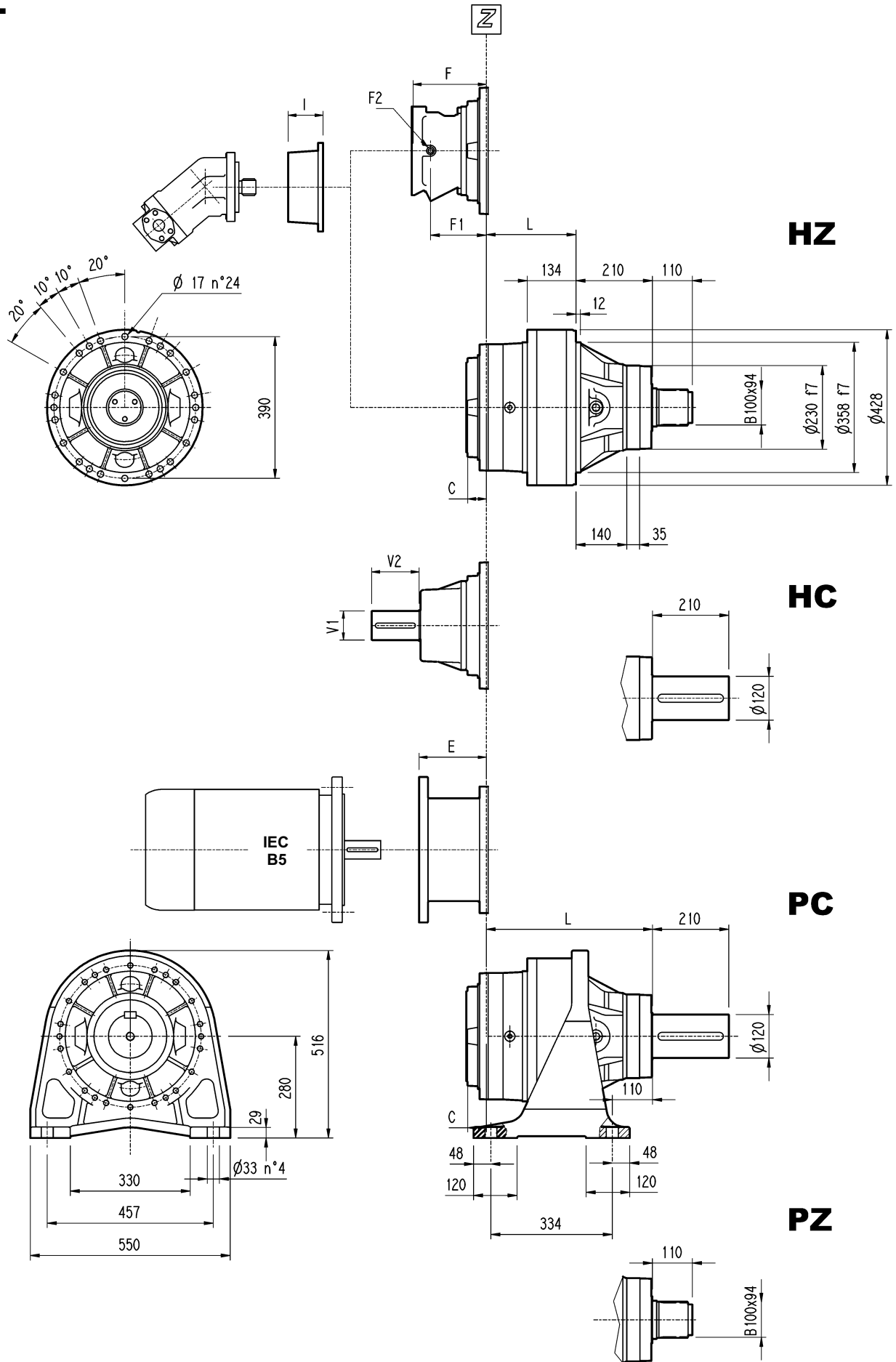
Nota: i contrassegni (A) (B) (C) sulla stessa grandezza, indicano riduzioni angolari di dimensioni differenti: vedere le pagine dimensionali.

Note: Letters (A) (B) (C) near size indication identify different angle reduction dimensions. See pages relevant to dimensions.

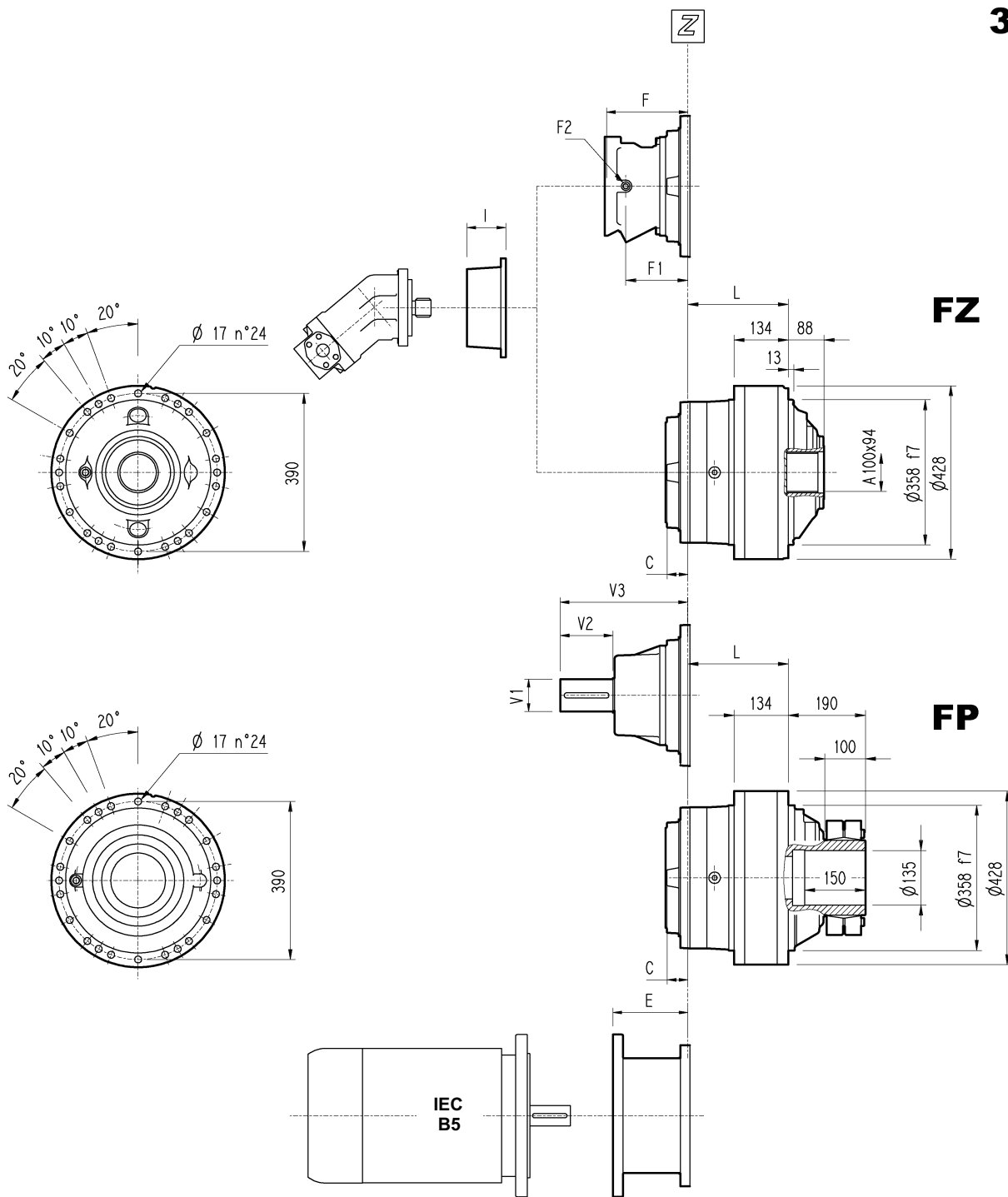
Hinweis: Die Kennzeichnungen (A) (B) (C) an der gleichen Baugröße weisen auf die Winkelreduzierung in unterschiedlichen Maßen hin: siehe Seiten mit Maßtabellen

Remarque : les indications (A) (B) (C) sur la même taille indique des réductions angulaires de dimensions différentes. Se reporter aux pages des dimensions.

# 311L



# 311L

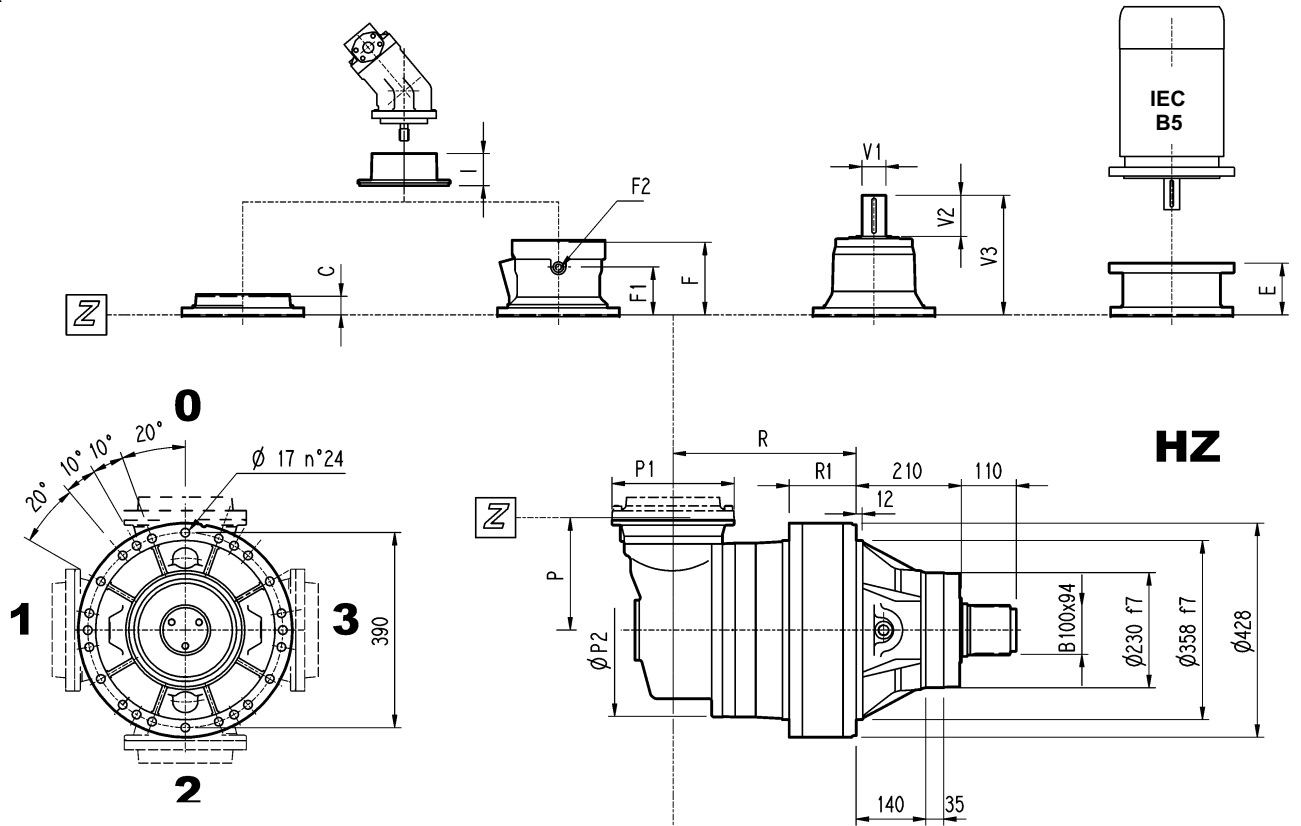


VERSIONE FP	COPPIA MAX. TRASMISSIBILE	<b>54 000 Nm</b>
FP VERSION	MAX. TRANSMISSIBLE TORQUE	
VERSION FP	MAX. ÜBERTR. MOMENT	
VERSION FP	COUPLE MAX. TRANSMISSIBLE	

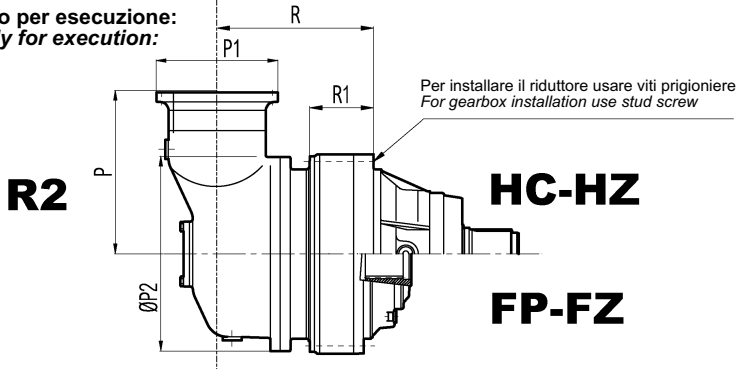
	L				Kg				C	Entrata Input Antrieb Entrée	I	Type				Entrata Input Antrieb Entrée	Kg
	HZ HC	PC PZ	FZ	FP	HZ HC	PC PZ	FZ	FP				F	F1	F2	Typ Type		
<b>311 L1</b>	115	325	115	115	180	250	160	170	81	D	191						
<b>311 L2</b>	248	458	248	248	225	295	205	215	51	B		201	153	1/4 G	6	B	28
<b>311 L3</b>	337	547	337	337	237	307	217	227	37	A		145	95	1/4 G	5	A	16
<b>311 L4</b>	402	612	402	402	244	314	224	234	37	A		105	65	1/4 G	4	A	10

	V1	V2	V3	Kg	V1	V2	V3	Kg	E												
									IEC 71	IEC 80	IEC 90	IEC 100	IEC 112	IEC 132	IEC 160	IEC 180	IEC 200	IEC 225	IEC 250		
<b>311 L1</b>	80	130	348	55																	
<b>311 L2</b>	80	130	315	35	60	105	313	28								195	186	216	215		
<b>311 L3</b>	48	82	239	15										114	144	144	174				
<b>311 L4</b>	24	36	137.5	6	38	58	158	7	65	84	84	94	94	114	144						

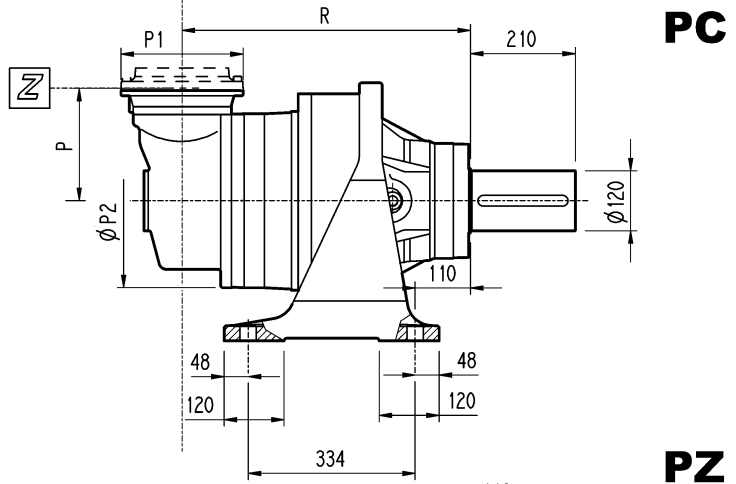
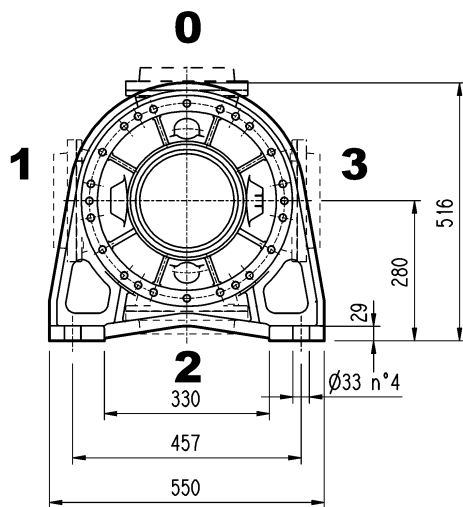
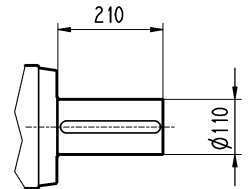
# 311R



Solo per esecuzione:  
Only for execution:

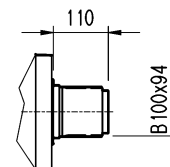


**HC**

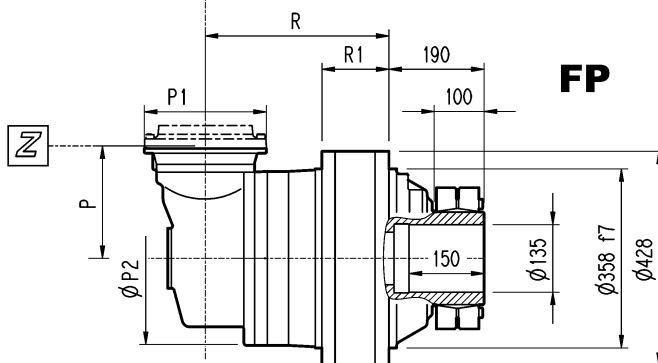
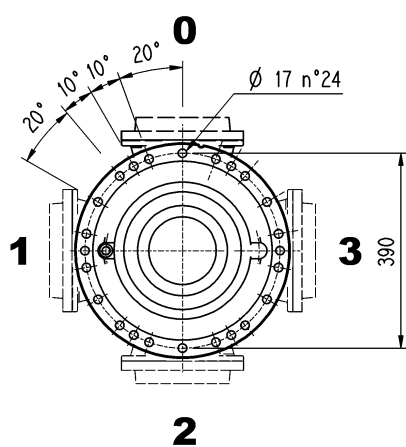
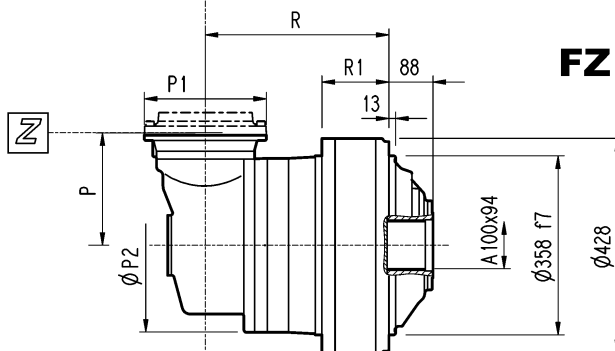
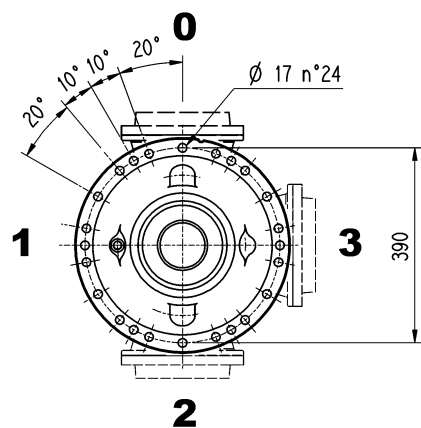
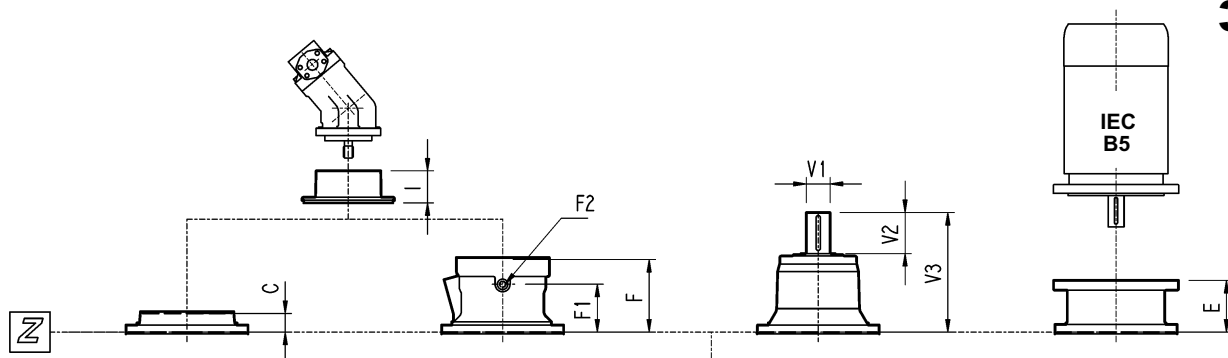


**PC**

**PZ**



# 311R



VERSIONE FP	COPPIA MAX. TRASMISSIBILE	<b>54 000 Nm</b>
FP VERSION	MAX. TRANSMISSIBLE TORQUE	
VERSION FP	MAX. ÜBERTR. MOMENT	
VERSION FP	COUPLE MAX. TRASMISSIBILE	

	R				R1				P	P1	P2	Kg				C	Entrata Input Antrieb Entrée	I	F	F1	F2	Tipo Type Typ Type	Entrata Input Antrieb Entrée	Kg
	HZ HC	PC PZ	FZ	FP	HZ HC	PC PZ	FZ	FP				HZ HC	PC PZ	FZ	FP									
<b>311 R2 (B)</b>	340	550	340	340	154	-	154	154	345	292	400	310	380	290	300	45	B	191	195	147	1/4 G	6	B	28
<b>311 R2 (C)</b>	340	550	340	340	154	-	154	154	390	292	480	320	390	300	310	45	B	191	195	147	1/4 G	6	B	28
<b>311 R2 (A)</b>	340	550	340	340	154	-	154	154	330	245	390	290	360	270	280	37	A	191	145	95	1/4 G	5	A	16
<b>311 R3</b>	367	577	367	367	134	-	134	134	225	245	375	275	345	255	265	37	A	191	145	95	1/4 G	5	A	16
<b>311 R4</b>	429	639	429	429	134	-	134	134	140	186	244	257	327	237	247	37	A	191	105	65	1/4 G	4	A	10

	V1	V2	V3	Kg	V1	V2	V3	Kg	E														
	IEC 71	IEC 80	IEC 90		IEC 100	IEC 112	IEC 132		IEC 160	IEC 180	IEC 200	IEC 225	IEC 250										
<b>311 R2 (B)</b>	60	105	307	23																			
<b>311 R2 (C)</b>	60	105	307	23													114	144	144	174			
<b>311 R2 (A)</b>	48	82	239	15												114	144	144	174				
<b>311 R3</b>	48	82	239	15												114	144	144	174				
<b>311 R4</b>	24	36	137.5	6	38	58	158	7	65	84	84	94	94	114	144								